Armed Services Technical Information Agency

Because of our limited supply, you are requested to return this copy WHEN IT HAS SERVED YOUR PURPOSE so that it may be made available to other requesters. Your cooperation will be appreciated.

AD



NOTICE: WHEN GOVERNMENT OR OTHER DRAWINGS, SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE U.S. GOVERNMENT THEREBY INCURS NO RESPONSIBILITY, NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

Reproduced by DOCUMENT SERVICE CENTER KNOTT BUILDING, DAYTON, 2, 0HIO

UNCLASSIFIED,

Quarterly Development Report

DEVELOPMENT OF -

FILM DIELECTRIC CAPACITORS --- HIGH TEMPERATURE

-0-

This report covers the period June 15, 1953 to September 30th, 1953

TOBE DEUTSCHMANN CORPORATION

921 Providence Highway Norwood, Massachusetts

NAVY DEPARTMENT BUREAU OF SHIPS --- ELECTRONICS DIVISION

Classification cancelled in accordance with Executive Order 10501 issued 5 November 1953

Document Service Center Armed Services Tech. Info Agency

Contract No. NObsr - 57200

Index No. NE-111016, St. 1

Date of Contract: Feb. 20, 1952

Date of Report: Sept. 30, 1953

C M P Classification: Class "A" Product

Certification DO-A-7 certified under CMP Regulation No. 3

FURTHER DISSELIMINATION IS AUTHORIZED ONLY TO MILITARY AGENCILS.

S-E-C-U-R-I-T-Y

I-N-F-O-R-M-A-T-I-O-N

BEST AVAILABLE COPY

ABSTRACT

PHASE I

Probably one of the more important characteristics of Mylar with regard to its use as a dielectric is most often overlooked or at best treated very insignificantly by research organizations. In their anxiety to point out its superior electrical and temperature qualities they overlook a fact on which a production or methods department undoubtedly would consider its most important attribute. The more one works with Mylar the more one realizes the comparative ease with which Mylar capacitors are made. All the units made thus far for this particular project have gone through two departments only namely, winding and assembly. In comparison, a paper wound capacitor of similar construction must go through a minimum of one more department, namely, impregnation. This in itself is quite a process, requiring a day or days of heat and vacuum and the resultant labor of loading and unloading ovens. Furthermore, the cost of maintaining this heat and vacuum is a very significant portion of the total cost of the unit.

It might be found later as work progresses with Mylar units that even they should be impregnated for best results. At this point this is mere speculation. However, it is a fact that an unimpregnated Mylar unit will surpass an impregnated paper unit of the same construction in overall electrical tests.

PER PER J. C. T. E.D

ABSTRACT

Part I.

PHASE II

The greatest difficulty encountered with Metallized Mylar to date has been one of assembly. The number of complete breakdowns in any given test, even though the applied voltage approaches the stress point of the film, is usually less than ten per cent. Unfortunately, for test purposes, before the complete rupture point of the dielectric is reached the unit "opens", i.e., one or both of the terminals become isolated from the section. The rate at which these "opens" occur, of course, depends upon the voltage applied during the test. The higher the voltage stress - the greater the number of opens. This phenomenon is natural, however, since the current density is greatest at the edges of the film, thereby causing the greatest concentration of breakdowns in these areas. The higher the voltage, the more frequent the breakdowns, the greater the possibility of opens occurring. Probably the foremost measure to correct this situation is to apply a denser film of metal to the Mylar. With the material on hand being as it is, the work in this phase will continue to use both total or complete breakdowns and opens as a means of determining the result of each test.

Part I.

10

PURPOSE

A. Develop Film Dielectric Capacitors, high-temperature, utilizing DuPont "Mylar" Film (V-200) or equivalent, as a capacitor dielectric, in order to achieve higher temperature operation and greater reliability of fixed paper capacitors, in accordance with Bureau of Ships Contract Specification SHIPS F-400, dated 15 September 1951, as follows:

B. Phase I.

- 1. Evaluate a V-200 film or equivalent in accordance with paragraph 3. 2. 1 of referenced Bureau of Ships Contract Specification SHIPS F-498.
- Furnish fifty (50) each of various capacitors as described in paragraph 3.2.1 of referenced Bureau of Ships Contract Specification SHIPS F-498.
- 3. Submit reports as specified therein.

C. Phase II.

- 1. Evaluate a V-200 film or equivalent with metallized electrodes in accordance with paragraph 3.2.2 of referenced Bureau of Ships Contract Specification SHIPS F-499.
- Furnish fifty (50) each of various capacitors as described in paragraph 3.2.1 of referenced Bureau of Ships Contract Specification SHIPS F-499.
- 3. Furnish one (1) set of Type D. Class IV Manufacturing Drawings in accordance with Bureau of Ships Specification 16D19 (RE), dated 15 January 1946, and Amendment No. 2 dated 1 May 1948.
- 4. Submit reports as specified herein.

GENERAL FACTUAL DATA

Phase I.

The Mylar received for this project has come to us in three shipments.

The first, consisted of a few rolls of .0005" with which the introductory samples were made. The second and third, completed our order of .00025" and .0005" film. Before this quarter all the material used came from the second shipment. However, now there is very little low gauged material left and it has become necessary to use some of the third shipment.

In the construction of this 1 Mfd. unit comprising two .00025" and one .0005" film between foils, considerable manipulation of the rolls was needed to maintain a total thickness of the three layers not to exceed .00112". In some instances rolls as high as .00029" for .00025" and .00059" for .0005" were used.

Test groups NObsr #91 through #104 (See Part III pp. 1-6) had more mechanical failures than are ordinarily found. Examination of these sections revealed that in every instance the failure occurred at the margin. Moreover, the margins of these units were out of alignment. During the winding operation the films tended to sway and went unobserved by the operator. In some cases the margins varied as much as 3/32". These units were representative of many wound at the same time (group NObsr #93 through #104 See Part III p. 25) but were tested at voltages of 1600 V.D.C. or greater. Undoubtedly, units in groups tested with lower voltages had this same margin sway, but did not fail because the test voltage was insufficient to cause corons.

R-E-S-T-R-I-C-T-E-D

GENERAL FACTUAL DATA (Continued)

Test groups NObsr #118 through #122 (See Part III p. 25) had more voltage breakdowns before life test than is usual. Examination of the sections revealed them to be mechanical faults. The solder seam between the cover and the can falls approximately upon the top margin of the section. In these units that protective margin had been fused away by the excessive heat of soldering. Ordinarily the units are soldered with an electrically heated soldering iron, but these were torched by error. In the cases of these failures the excessive heat of the torch was held in one position too long allowing the Mylar to fuse and crack.

FACTUAL DATA GENERAL

PHASE II

The tests inducted with Metallized Mylar prior to this quarter yielded information more so than conclusive results. In many instances "opens" occurred during the life tests that could not becorrelated with any specific time of said life test. To correct this situation it was our plan to incorporate into the life test circuit a means for measuring the total capacitance of the units on test. In that manner a regular check would reveal the loss of a unit or units, and the time of that loss could be closely established. However, after a thorough investigation such a circuit was found to be too intricate to employ for this purpose - particularly since it is usual to have six different life tests operating on six different life test circuits at the same time. As an alternative, the regular capacitance measurements were made with a portable, variable, 60 cycle, capacitance bridge. The process is manual. The technician cuts the voltage from the units to be tested and allows them to discharge before making connections with the bridge. The more frequent the number of temporary breakdowns, the more often the capacitance must be measured.

DETAIL FACTUAL DATA

PHASE I

Work was resumed according to the plan outlined in the June, 1953 quarterly report. The capacitor construction involved being the 1 Mfd. unit constructed with two .00025" Mylar films and one .0005" Mylar film between fulls. The total thickness of the three layers of Mylar between foils varies between .00106" and .00112". The margin is 1/4". All life tests were run at 85°C.

- A. Seventy-five units divided into three groups of twenty-five each:
 - 1. Tested at 1600 V.D.C., one unit failed voltage test prior to Life Test. It was a Mylar failure. The remaining twenty-four units were placed on Life Test, and seventeen completed 83 hours. There were four mechanical failures, two Mylar failures, and one opened during the test. (See Part III P. 1.)
 - 2. Tested at 1700 V.D. C., four units failed voltage test prior to Life Test. Two were Mylar failures and two were mechanical failures. The remaining twenty-one units were placed on Life Test, and sixteen completed 72 hours. There were three Mylar and two mechanical failures. (See Part III P. 2.)
 - 3. Tested at 1800 V.D.C., two units failed voltage test prior to Life Test. Both were mechanical failures. The remaining twentythree units were placed on Life Test and fifteen completed 76 hours. There were five Mylar and three mechanical failures. (See Part III P. 3.)
- B. Seventy-five units divided into three groups of twenty-five each:
 - 1. Tested at 1900 V.D.C., two units failed voltage test prior to life test. Both were Mylar failures. The remaining twenty-three units were placed on Life Test, and seventeen completed 72 hours. There were three Mylar and three mechanical failures. (See Part III P. 4.)

DETAIL FACTUAL DATA Phase I (continued)

(1)

- 2. Tested at 2000 V.D.C., four units failed voltage test prior to Life Test. Two were Mylar and two mechanical failures. The remaining twenty-one were placed on Life Test and fifteen completed 90 hours. There were five Mylar and one mechanical failure. (See Part III P. 5.1
- 3. Tested at 2100 V.D. C., two units failed voltage test prior to Life Test. Both were Mylar failures. The remaining twenty-three were placed on Life Test and sixteen completed 72 hours. There were three Mylar, three mechanical failures and one unit opened during the test. (See Part III P. 6.)
- C. Seventy-five units divided into three groups of twenty-five each:
 - 1. Tested at 2000 V.D.C., two units failed voltage test prior to Life Test. Both were Mylar failures. The remaining twenty-three units were placed on Life Test and seventeen completed 72 hours. There were six Mylar failures. (See Part III P. 7.)
 - Tested at 2100 V.D.C., two units failed voltage test prior to Life Test. Both were Mylar failures. The remaining twenty-three units were placed on Life Test and eighteen completed 76 hours. There were four Mylar and one mechanical failure. (See Part III P. 8.)
 - Tested at 2200 V. D. C., two units failed voltage test prior to Life Test. One was a Mylar failure and the other mechanical. The remaining twenty-three units were placed on Life Test and fourteen completed 85 hours. There were six Mylar and two mechanical failures and one unit opened during the test. (See Part III P. 9.)

DETAIL FACTUAL DATA Phase I (continued)

- D. Seventy-five units divided into three groups of twenty-five each:
 - 1. Tested at 2200 V.D.C., two units failed voltage test prior to

 Life Test. One was a Mylar and the other a mechanical
 failure. The remaining twenty-three units were placed on

 Life Test and seventeen completed 72 hours. There were
 four Mylar and one mechanical failure. One unit opened during
 the test. (See Part III P. 10.)
 - 2. Tested at 2300 V. D. C., one unit failed voltage test prior to Life Test because of mechanical faults. The remaining twenty-four units were placed on Life Test and sixteen completed 79 hours. There were four Mylar and two mechanical failures. Two units opened during the test. (See Part III P. 11.)
 - Tested at 2400 V. D. C., all units passed tests prior to Life.
 Test and were placed on Life Test sixteen completing 72 hours.
 There were eight Mylar failures. One unit opened during the test. (See Part III P. 12.)
- E. Seventy-five units were divided into three groups of twenty-five each:
 - Tested at 2300 V.D.C., all units passed tests prior to Life
 Test and were placed on Life Test five units completing 72
 hours. There were nineteen Mylar failures. One unit opened
 during the tests. (See Part III P. 13.)
 - Tested at 2400 V.D.C., all units passed tests prior to Life
 Test and were placed on Life Test twelve units completing
 hours. There were ten Mylar failures. Three units opened
 during the test. (See Part III P. 14.)

DETAIL FACTUAL DATA Phase I (continued)

- 3. Tested at 2500 V.D.G., all units passed tests prior to Life

 Test and were placed on Life Test sixteen units completing

 80 hours. There were eight Mylar failures. One unit

 opened during the test. (See Part III P. 15.)
- F. Seventy-five units were divided into three groups of twenty-five each:
 - 1. Tested at 2300 V.D.C., one unit failed voltage test prior to Life Test. By error the wrong unit was first opened thereby reducing the number started on Life Test to twenty-three.

 Fourteen units completed 74 hours. There were eight Mylar failures and one unit opened during the test. (See Part III P. 16.)
 - 2. Tested at 2400 V.D.C., one unit failed voltage test prior to Life Test. It was a Mylar failure. The remaining twentyfour units were placed on test and twelve completed 84 nours. There were nine Mylar failures and three units opened during the test. (See Part III P. 17.)
 - 3. Tested at 2500 V.D.C., one unit failed voltage test prior to Life Test because of mechanical faults. The remaining twenty-four were placed on test and nine completed 72 hours. There were twelve Mylar failures and one opened during the test. (See Part III P. 18.)
- G. Seventy-five units were divided into three groups of twenty-five each:
 - Tested at 2100 V.D.C., all units passed tests prior to Life
 Test and all were placed on Life Test eight completing
 78 hours. There were sixteen Mylar failures and one unit
 opened during the test. (See Part III P. 19.)

DETAIL FACTUAL DATA Phase 1 (continued)

- 2. Tested at 2200 V.D.C., one unit failed voltage test prior to

 Life Test because of mechanical faults. The remaining

 twenty-four units were placed on Life Test and fourteen completed 76 hours. There were seven Mylar and three mechanical failures. (See Part III P. 20.)
- 3. Tested at 2300 V.D.C., six units failed voltage test prior to Life Test. All were mechanical failures. The remaining nineteen units were placed on Life Test and twelve completed 72 hours. There were five Mylar failures and two units opened during the test. (See Part III P. 21.)
- H. Seventy-five units were divided into three groups of twenty-five each:
 - Tested at 2000 V.D.C., seven units failed voltage test prior
 to Life Test because of mechanical faults. The remaining
 eighteen units were placed on Life Test and twelve completed
 79 hours. There was one mechanical failure and five Mylar
 failures. (See Part III P. 22.)
 - 2. Tested at 2100 V. D. C., five units failed voltage test prior to Life Test. There was one Mylar and four mechanical failures. The remaining twenty units were placed on Life Test and fifteen completed 72 hours. There was one mechanical and four Mylar failures. (See Part III P. 23.)
 - 3. Tested at 2200 V.D.C., two units failed voltage test prior to Life Test. Both were mechanical failures. The remaining twenty-three units were placed on Life Test and eighteen completed 72 hours. There were four Mylar failures and one unit opened during the test. (See Part IV P. 24.)

DETAIL FACTUAL DATA

PHASE II

All the work done this last period with Metallized Mylar capacitors was concentrated on the .25 Mfd. type with single .0005" film construction.

All Life Tests were conducted at 85°C.

- A. Seventy-five units divided into three groups of twenty-five each:
 - Tested at 600 V.D.C., all units passed tests prior to Life
 Test. All twenty-five units were placed on Life Test and
 twenty-two completed 286 hours. Three units opened during
 the test. (See Part III pp. 26, 27, 28.)
 - Tested at 700 V.D.C., two units apened prior to Life Test.
 The remaining twenty-three units were placed on Life Test and twenty-one completed 285 hours. Two units opened during the test. (See Part III pp. 29, 30, 31.)
 - 3. Tested at 800 V.D.C., all units passed the tests prior to Life Test. All twenty-five units were placed on Life test and twenty-three completed 285 hours. Two units opened during the test. (See Part III pp. 32, 33, 34.)
- B. Seventy-five units were divided into three groups of twenty-five each:
 - 1. Tested at 900 V. D. C., six units failed the tests prior to Life Test. Two were voltage failures and four were opens. The remaining nineteen units were placed on Life Test and seventeen completed 262 hours. Two units opened during the Test. (See Part III pp. 35, 36, 37.)

R-E-S-T-R-I-C-T-E-D

DETAIL FACTUAL DATA Phase II (continued)

- 2. Tested at 1000 V.D.C., five units failed the tests prior to
 Life Test. Three were voltage failures and two were opens.
 The remaining twenty units were placed on Life Test and
 Thirteen completed 263 hours. One unit failed completely
 during voltage pre-breakdown test and six units opened
 during the test. (See Part III pp. 38, 39, 46.)
- 3. Tested at 1100 V. D. C., six units failed the tests prior to Life Test. Four were voltage failures and two were opens. The remaining nineteen units were placed on Life Test and eleven completed 260 hours. One was a complete breakdown, and seven opened during the test. (See Part III pp. 41, 42, 43.)
- C. Seventy-five units were divided into three groups of twenty-five each:
 - 1. Tested at 1200 V. D. C., five units failed the tests prior to

 Life Test. Two were opens and three failed voltage during
 the pre-breakdown period. The remaining twenty units were
 placed on Life Test and ten completed 256 hours. Ten units
 opened during the test. (See Part III pp. 44, 45, 46.)
 - 2. Tested at 1300 V.D.C., seven units failed the tests prior to

 Life Test. Five were opens and two failed completely during
 the pre-breakdown period. The remaining eighteen units
 were placed on Life Test and one completed 252 hours. Three
 units failed completely and fourteen units opened during the
 test. (See Part III pp. 47, 48, 49.)

DETAIL FACTUAL DATA Phase II (continued)

- 3. Tested at 1400 V.D.C., three units failed the tests prior to
 Life Tests. One unit failed completely and two opened. The
 remaining twenty-two units were placed on Life Test and two
 completed 252 hours. Two units failed during the pre-breakdown test, three failed completely during Life Test and
 fifteen opened. (See Part III pp. 50, 51, 52.)
- D. Seventy-five units were divided into three groups of twenty-five each:
 - 1. Tested at 800 V.D.C., six units opened prior to Life Test.

 The remaining nineteen units were placed on Life Test and all passed 255 hours. (See Part III pp. 53, 54, 55.)
 - 2. Tested at 900 V.D.C., four units failed the tests prior to Life Test. Three units opened and one failed completely. The remaining twenty-one units were placed on test and eighteen completed 252 hours. Three units opened during the test. (See Part III pp. 56, 57, 58.)
 - 3. Tested at 1000 V.D.C., two units opened prior to Life Test.
 The remaining twenty-three were placed on Life Test and thirteen completed 250 hours. Two units failed completely and eight opened during the test. (See Part III pp. 59, 60, 61.)

CONCLUSIONS

(0)

(0)

PHASE I

The 1 Mfd. unit constructed with two layers of .00025" and one layer of .0005" Mylar between foils:

It became noticeable as the test voltage was increased with this type of unit that the method of attaching the tab to the terminal was not satisfactory at high stresses. (See Table I Part III P. 25.) A considerable number of units opened some time during the Life Test. In every case the open occurred at the point where the tab was spot welded to the terminal stud. A single spot weld at this junction has been used throughout this project. Apparently the bonded area provided by this single weld is insufficient to carry the high instantaneous current surge that occurs when the entire bank of capacitors discharge through a short circuited unit. In the future, units of this type construction will be spot welded at two or three points.

The accompanying table is an average of the individual tests conducted at the same test voltages.

Temperature	Voltage D.C.	Percent Mylar Failures	Number of Units Tested
85° C	2000	27%	62
850 C	2100	30%	91
85° C	2200	25%	93
85° C	2300	41%	91
85° C	2.400	40%	74
85°C	2500	45%	49

CONCLUSIONS PHASE I (continued)

Throughout this project the method used to determine the per cent of Mylar failures will be the same. Any or all mechanical failures and opens that occur during the Life Test will be subtracted from the total started on test. In this manner a better control may be maintained over errors of winding or assembly.

Because the Mylar used gauges heavier than that specified, it is only natural that the voltage stresses achieved are somewhat higher than expected. The Mylar gauges inconsistently and likewise the voltage stresses are found to be erratic. However, when the averages of the individual test voltage groups are computed, the results indicate that a unit constructed with two layers of .00025" and one layer of .0005" Mylar between foils can be Life Tested at 85°C at a potential not to exceed 2000 V.D.C. for a period of seventy-two hours with no greater than thirty per cent loss of units.

CONCLUSIONS

PHASE II

The figures listed in the table (Page 16) are averages derived from all the individual life tests with the .25 Mfd, unit constructed with a single film of .0005" Metallized Mylar. (See Pari III P. 62 and Quarterly Report June 30, 1953 P. 26.)

S-E-C-U-R-I-T-Y I-N-F-O-R-M-A-T-I-O-N R-E-S-T-R-I-C-T-E-D

CONCLUSIONS PHASE II (continued)

Te: Volta		Permanent Failures	Opens After Life Test	Number of Temporary Breakdowns/ Microfarad/250 hours
600	V.D.C	0%	6.5%	12.8
700	11	1.3%	6.5%	33.6
800	1.5	1.0%	10.8%	23.6
900	1.1	0%	9.2%	65.2
1000	*1	10%	39%	190.4
1100	1.2	2%	38%	168
1200	•1	26%	36%	121.2
1300	•1	12%	56%	456.8
1400	£1	34%	32%	2.76.8

To calculate the number of temporary breakdowns per microfarad the following procedure was used:

The number of units used in each test was found by averaging the number of units that started the test and the number that finished. These averages were totalled for each voltage group. The total number of temporary breakdowns for each voltage group was divided by the total number of units used, and this quotient multiplied by four so the result would be expressed in terms of breakdowns per microfarad.

An analysis of this table reveals that the results are not conclusive but are indicative. It would appear that a unit of this type could be life tested at 700 V.D.C. at 85°C and conform to most of the specifications used today, since they usually allow two life test failures during a period of 250 hours.

PART

II

PROGRAM FOR NEXT INTERVAL

PART II PROGRAM FOR NEXT INTERVAL

PHASE [

With this quarter's work completed we have finished our research with the 1 mid type capacitor at 85°C. Three different types of construction have been made and tested until the voltage stress limit for each type was established.

Originally, it was our plan to proceed with the .25 mld type capacitor, and to repeat the program using the three different types of construction with this unit.

However, since one of the more important characteristics of Myler appears to be its resistance to elevated temperatures, and furthermore, the electronic industry has a vital need for capacitors which will operate at high temperatures, we propose to repeat our program with the same unit at 125°C.

The 1 mfd unit constructed with two layers of .0005" between foils will be the first type investigated.

PHASE II

The data compiled with the .25 mfd unit constructed with a single film of .0005" Metallized Myler is sufficient to permit a comparison of performances of this unit at 85°C and at 125°C. Consequently, during the next quarter, we will make more of this type unit and repeat the test patterns, but at the elevated temperature of 125°C.

					1										,		
15 Wits 1.0 ufd -	2K. 25-1X	10		Mulor Cok	101	Cob	000	tors		1		3	10E NO.	1665	15	66	
TCATION			FOR WH		1	Win	oth			CONTRACT	CF NO.	. 106	159	,	572	00	
HOURS ON TEST 72 +			TEMPERATURE	ATUR		85	ีย			VOLTÀGE		16	00	7	20		
. p.	Clock 7 /	1371	Date ?	finished	l. >	953	96	Clock	- /	4/ .	4541		Total	Hours		85	
4			ELECTRICAL		TESTS	BEFORE	E LIFE	TEST T						,		i.	
Sample Mumber 1 2	3 4 5	6 7 8	6	o	11	12 1	13 14	15	91	17	18	19;	20 21	-	22 23	え	25
10 40 K 60 K	75K 100K						H	\prod	Ш		100/		100K	+	4	#	¥1004
	<i>)</i>			$\overline{}$								1		-	-	-	-
Cap. 10 whd-1000 2.981 997	995 982.963.9	.965 1.005.977	27.998	196	.966.942		1016 161	196.10	763	.927	165		5.03	.966.757	57.982	7.927	7.2%
Buc. Fater % 51.39	29. 88. 37	37 .38 .36	7,	38	38	. M	40 .4	69. 0	39	38	38	1 -	39.3	8	44.8	139	06.
		-	-		+	+	+	+	_		C	27	C	+	+	1	1
Voltage - 1600 De PK					-	#	+	-			Y	1 2	1	₩	-		1
1		+	1	1	+	+	+	+				100		+	-	-	-
						\vdash	\vdash	-				101	H	H	~	Ц	
		-	H			Н		-				10	-	-		-	
				7								25	-	-			
LIFE TEST FAILURES LN HRS.	٥٠	. 1346				218	3 13	~	25		ام		÷		,	83	
			ELECTRI	3	TESTS	AFFER	117	TEST							7.	.,.	
Sample Number 1 2	3 4 5 26	6 7 8	1 1	01	11	12 613	名	\$ 15	16	17	18	19 2	20 21	25	23	Safe.	23
Shert 6. Mega. 7561	YOOK :	1000			100 K &	, , ,	19	100K		100K	104	9	YVOO	\parallel	V ICOK	4	1000
+		3	-			- 1	14	in the	510	3	01	+4	400	000	9	44	000
19 your wild 1000 72.773.78	254 186 446	714 416	16.993	.760	10	7	, _D ,	3 4	_	_		+		2	Υ .	420	-
Buer Fat. % +5 54	. 41 .45 .43	5 44 43	54.5	. 44	42 %	15	11	5	9	.43	40	r.	12 .49	.43	۲,	12	44.
		15 48	+		7/16		14	a	1.14			+	+	+	1		
	70.	Ye.	+		4	14.	1 3	14.	2/		14/	-	+	+	_	4 a.	
	4	, ,	+		* > /	Έ.	3,0	4.	14		101		\vdash	-	L	7-7	
	901		-		471	.4	01	1/D	04		<u>√</u> 2	H	Н		Ц	0	10
	- "		Н		7	•/ <u>*</u>	0: /1	₽5	0 0		25 14	+	+	+	1	7/4 70-7	
	ଧ -) ? 4			-4	N/A	%	10	W	`	10	+	\dashv	4		5	-
Page I					Date		collected	4 14	×		ž	11.		1			1
INKERING DEPT.	C.L. 1002	TON	NE DEUTSCH	SCHAIN		CORPORATION	801						MORNIDOD.	D. KAS	=		
		- 10						1								J	

Supplementary 1 2 3 4 5 6 7 6 7 7 7 7 7 7 7									*	1000	-	-					*	1						
7.2 Though \$8 - 15 of this filled and the first thing the firs	Cuntre 1.0	4	·			امح			13	4	Co	000		2			-	400	3	0	10	63		00
12	SPECIFICATION								OR. V	300	·	N.	10	7		8	MTRA		. 7	590	1	30		
1 2 3 4 5 6 7 8 9 9 0 11 12 13 14 15 16 17 18 19 30 21 22 23 24 24 17 17 17 18 19 30 21 22 23 24 24 24 17 17 17 18 19 30 21 22 23 24 24 24 17 17 17 17 17 17 17 17 17 17 17 17 17		72	+							ATOR		85					OLTA		1		1		-	2
1 2 3 4 5 6 7 8 9 80 11 12 13 14 15 16 17 16 19 20 21 22 23 24 12 12 13 14 15 16 17 16 19 20 21 22 23 24 12 12 13 14 15 16 17	postale of	5.3		25		1	150	. `	2 7	And was	. \	553		gę	ck +	6 0	,	5		30		e h	~	. /
2	-								M	nca.	_		POR	LIFE	TEST		,					.		t
2	Sample Humber	-	-	\vdash	-	-	\vdash		6	01.34 10	1	12	-	77	15	91	17	18	19	ଛ	23	22	23	₹
2. C. L.	101toce- 1700DC		14	\parallel	\parallel	\parallel	\parallel		O.			9	24	٩			0		Q				+	1
2.	1		-	-	-	-	-			+	111							2		1		1	+	-+
2		5	+ 7	$\overline{}$	-			1	7	1+	100		0	100				4	100K			-	-	-
2. 5. 47. 47. 42. 45. 49. 47. 49. 58. 47. 42. 47. 47. 47. 47. 47. 47. 47. 47. 47. 47		10						_	_	- 1			. 1	- 1									-	-
5. 1 2 3 4 5 6 5 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	3004 - by Mr. de	0	_			٠.	9	\rightarrow	-+	0		_	12	.1	76	326	-211			1967	_		-+-	
11 2 3 4 5 6 7 8 9 9 10 11 5 2 11 4 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		_	-	1	-	*	-	_	\rightarrow	3	- 1	+	4					1			1	1	-	_
1 2 3 4 5 6 7 8 9 10 11 12 13 14 17 17 18 19 10 17 17 17 18 19 17 17 17 17 17 17 17	WATER !!	10		£ .	55.75	+			-	*	-	+	.4	1	32	35	113	1		335	2	35	-	
1 2 3 4 5 6 7 6 8 9 10 11 512 13 44 5 10 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	***	_	+	-	+	+	+	+	-		,,,,	1										+	1	1
1 2 3 4 5 6 7 8 10 11 11 11 11 11 11 11 11 11 11 11 11	7	0 0		`.	+	-	-	-	-	- 1			2			I						1	+	1
1. 2 3 4 5 6 5 7 8 9 10 11 512 13 945 15 16 17 18 19 20 7215 22 523 24 17 17 17 17 18 19 20 7215 22 523 24 17 17 17 17 17 18 19 20 7215 22 523 24 17 17 17 17 17 17 17 17 17 17 17 17 17	,	19		-	_	•		_	_		40	1					•	14		-	1	1	+	4
11 2 3 4 5 6 5 7 8 9 10 11 5 12 11 9 10 17 18 19 30 12 15 22 5 3 2 4 1 1 1 1 2 3 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0								' . }	73	4						0			1	-	+	+
1 2 3 4 5 6 7 8 9 10 11 512 13 14 15 16 17 18 19 20 121 22 623 24 17 17 17 17 18 19 20 121 22 623 24 17 17 17 17 17 17 17 1	<i>d</i> .	-0	17				-			W	20							1					1	1
1 2 3 4 5 6 5 70 8 9 10 11 512 13 946 15 16 17 18 19 20 22 52 54 17 16 17 18 19 20 22 52 54 17 18 19 19 19 19 19 19 19	3				-	٧	*					1/		6						V	12	+-	$\overline{}$,
717 1018 4 5 6 5 7 8 9 10 11 512 13 945 15 16 17 18 19 20 20 22 523 24 17 42 42 45 45 47 44 42 42 45 45 45 47 47 42 42 42 45 47 42 42 42 42 42 42 42 42 42 42 42 42 42			\parallel	\parallel	\parallel	\parallel	-114	$\ \ $	ILECT.	SI CAL	- 11	11	11	11	131									1
717 10th < 30.912 1 to 0.940 10th	Sample Number	1	-			-	742		0	2		14	12	110	25	91		18			4		-	Н
\$\text{2.5}		#	11	#	##		*	#	11	-	3	11 -	Ш		YOU				1xx	2		¥	1	
(14 - 1000 & 1972, 94.2, 94.2, 94.2, 94.2, 94.2, 94.2, 94.3, 94.4, 99.4,			4	+	+	-	12,	1	۱			0=		0							M	P		-
Fater 22 41 42 45 46 44 44 44 44 44 42 43 44 42 42 5 6 48 62 46 64 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Jax 15 46 - 1000 6		•	"	-		40	\vdash	- 1	0	%	2		_	396.	963	-		395	0	0	2500		-
Fater 26 41 42 43 44 46 44 44 44 5 5 5 5 5 5 5 5 5 5 5 5			+	+	+	-	2 '	_	+	1	1	4		. [1	1,		1	05	-
Por A Bate collected by HJ. IW. HT.	Pater			$\overline{}$	-	$\overline{}$	10/	_	-+	1	7	4			. I	7	11		7	V		7	5,	-
A TOWN MAY WATER AND MAY WATER MAY WATER AND MAY		1	\dagger	+	+	+	- 1	410	+	1	1		\downarrow	•							1	3	-7	+
2 Date collected by HJ. IW. HT.		1	+	+	+	+		A	+	1	1	11		-				,		Ť	1/2/	1	2,4	-
2 St. 1002 Some merecular controllected by HJ. / W. HT. See St. 1002 Some merecular controllected by HJ. / W. HT. MORROOD, MA			+	+	+	+		1.	\vdash	L	L	1	L	* Y≅						-	. 4	(1)	₹° ~	
2 Date collected by HJ. VW. HT. 2 Date collected by HJ. VW. HT. 2 Date collected by HJ. VW. HT. 3 Date contents may 2 Date by HJ. VW. HT.			+	+	\vdash	\vdash	909		L	L	`			7-								-	9	
2 Data collected by HJ. VW. HT. Sets collected by HJ. VW. HT. FORE METERONS CORPORATION				+	\vdash	-		***		L	Ц	0/		4								7	2	+
MERCHAN THE C.1. 1002 GOIL DOOR DESTRICTION CONTOUNATION MAY HJ. WW. HT. NORMOOD.			\vdash	-	\vdash	-		10						23			-		\exists			-	24	4
WERRING THEF. C.L. 1002 FORE DRIVECTOR'S CORPORATION.											1	at e	118	eted	4	り	1	N.	_ 1		.			1
		3		•	3							1	10000								5			

Semple Number 1	1 +	1							1000	100								200			
ON TEST 7 started L/4 P.C. Mumber 1 C- ROW P.	+	XX	. 25		1	7	1	1	Mulor	1	9	Capasitors	100	4			101	10	10651	10	10
ON TEST 7 L/4 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2	ł				1	2	MAN	1	Win	· 🕶	074		8	MERA	CONTRACT NO.	-	10651		572	00	
Sample Number 1						TDG	TEMPERATURE	2	à	500				VOLTAGE		00	0	100			
Sample Mumber 1		Clock fre	6	- /2	20	Z bet	11 P	7/1010hod	55.8		gę.	Clock #	•	` .	346		Total	1 Hours		76	*
Sample Number							CTRICAL			BEFORE	LIFE	TEST						1	+	-	
14095-18000	~	7	5	469	2	₩0	9 1	10 11	1 12	2 13	7,	15	91	17	18	19	8	12	22 23	3	~
-		Q T		11	ď			-	H							+	+		+	+	٩
	-	-	0	10				H	\vdash									+	+		
INT M. BELLOK	1	100	¥	65.00	took			\mathbb{H}	+++	\parallel	*/ack	1K	100K		1	*	100K Z	75KZ	25K10	100K 100K	K 100
•		_	5	4		1				+	-+	_	_1.		\uparrow	1	1	+	-+-	_	
CIN 14 14 666 972	93.9	986. 986	1	1	9.2	96.2.3	618 9	983.98	.986 . 36	8.912	2.950	992	784	573	365	28	763.7	3	761.76	766 770	0
10 1	1 2	3		110	4.75	39	4. 7	435 40	0 10	40	395	45	.4/5.	3	10	40	20	435.6	6. 40	.3	9 2.0
-	+	+	7	1/0		+	++		+							+	+	+	+	-	
		-	3			+	+	+	+	+	1				1	+-	+	+	+	+	-
	+	+	4	07:	+	+	+	+	+	+	1	1.			+	+	1.	+3	+	-	1
		+	PHO	o ch		+	+-	-	+	-	_						H	7	H		
LIFE TEST PAILURES IN HRS.	m	1	+			0					9	تم			~ .		-	-, (23	-	77
			$\ $			ELE	ECTRICAL	וד	TESTS A	APTER 1	117	TEST									
Sample Number 1	2	3	5	9	7	338 n	9 10	11	1 12	2 13	7.	313	91	17	18	19 2	8	21	2 23	え	K2
Me 10- 7/4/00K	4,6	00K	4,		100K	-	¥	H	H	(NOK	ي و	4 .	ACE	100K	-	7 200	1000	A SOOT	000	DOKIOOK	• 4
	6			1	-	\rightarrow	\rightarrow	+	+			4	_	-			+	r	-4	_	Je
Cap. In 46d - 1000 & 978	V	\$ 589 \$ 4	4		960	4	316 .9	5.43	983.96	3.913	-	ه د	.986	.922	10	952.7	764 .4	763	796	8	ľ
	15	7	40.		1	74	+	+		+	~ / 2	2		1	301	+	+	200	240	1	-
lower toster - 10	200		1	1	1	4	+	+	+	+	24	1				+	+	4.	40	A	17/
	T "	· Am		-		-	,	+	-	-	00				4			7	14.6	-O	ý
	7	rey		-	-	W.		-	H	H	مر دن	Ź			140		/	71	2/		7
	0,	10		П	1	0		H		\perp	7	3			T	+	+	4	-	1	
	D.	,57	M-2		1	01	+	+	+	-	4	94			1	+	+	17	01/		
	5 0	<i>*</i>		I	ſ	100%	+	+	+	+	1/4	144			1/E	1	+	14	PPE	+	17
-	**	9				5	1	+	a a	128	7 X		111.	1		¥	1	1			
2001			•			-			4.0	STATE OF STA				NO.19	1.08		MOK	DREDOD.	3571		

Substitute 1 6 4/6/2			ı	ı	ı	ı	ı	ı	١	I	I	I	I	I	I	I	l		١		I
Sample Number 1 2 3 4 5 6 7 46 9 10 11 12 13 14 15 16 72 72 10 10 10 10 10 10 10 10 10 10 10 10 10		•===1					178		RECO	9											
######################################	10 44		25	-	X	1 7	77.		14	100	9	00		7				100	3		2
Sumple Number 1 2 3 4 5 6 7 165 20 20 20 4 7 7 7 7 7 7 7 7 7 7 7 10 10 10 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0	SPECIFICATION	,		1			X	1	B	111	4	7	8	TERE		1	0	15	5	200	
Sample Number 1 2 3 4 5 6 7 105 9 10 11 12 13 14 15 16 17 12 13 14 15 16 17 12 13 24 19 20 21 22 23 24 17 17 17 17 17 17 17 17 17 17 17 17 17	77		_		•	Ы	RATUR				L .			OLTA		180		00			
Sample Number 1 2 3 4 5 6 7 06 9 10 11 12 13 14 15 16 17 26 19 60 21 22 23 24 20 17 24 24 24 24 24 24 24 24 24 24 24 24 24	ate started	Clock 1	- 6	1	, .	o ' 1	/ nie / ' ' / '		55.50	٠	Tra	** * _	7		12		Tota			2	
Sample France: P K						LECT	RICAL		S BEI		LIFE	TEST								-	-
	Number 1 2	-	-	-	1	6	2	-	12		41	15	91		\$18.	19	-	+	-	-	-
Supple Number 1 2 3 10 4 3 5 6 4 4 2 6 10 10 10 10 10 10 10 10 10 10 10 10 10	1500 - 1900			1	1		v			-			^	U	134	9			1	H	*
1. 44. STILLIA (1. 45.					10									7			^;		+	+	-
LIFT TEST LATE TEST	South, 14:45-81 100K		\parallel	10	-7	-	X					\parallel	1	_	211	¥00		+	╫	\parallel	1
1	24 1.95 Can 134						-			474	399	585	976	12	1 !		+-+		14.3		
1		_			4.							_			٦	+		+	+	+	+
1. 1	% .31 .32	-			. +		is	w.	.36	3	4	30	300	-+		38		-		-1	1
1		1	1	+	11	0/4/	1	1				1		1		\dagger	1	+	+	-	-
11		+	+	+	3/		\downarrow	1				1	†	1	l'	+	+	+	+	+	
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		+	+	+	Ŧċ,	911	\downarrow	\perp				T	T	7		+	1	+	+	+	+
10 Number 1 2 3 Uh 2 5 6. U 7 8 9 10 11 12 11 14 15 16 17 18 30 21 22 23 40 10 10 10 10 10 10 10 10 10 10 10 10 10			+	+	1.4		<u> </u>									1	H				
ALECTRICAL TESTS AFTER LIFE TEST ALECTRICAL TESTS AFTER LIFE TESTS ALECTRICAL TES	PALLURES IN HRS.	-					42	14.		4		221			7	Cry				9	
A Mega Sid John Con Cok				1	╢	LECT	SE	11	11	11	11 .	131			•						
A Mey 21 1 100 2 188 1991 191 2 100 4 1 2 100 4 10 1 10 1 10 1 10 1	Number 1 2	1.		2	-	6	9	1	15	13	77.	15	91	1	П	-			H		2
14 (1000 £ 188 991.976 \$ 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	A Meson SIR 90K 100K			41	1.4	100	24	1000		-	-		DOK	XX		$\overline{}$			_	- 5	9
The inalfol, 1000 S. 1889, 991, 916, 37 5, 975, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 971, 978, 972, 973, 972, 973, 973, 973, 973, 973, 973, 973, 973			M-	10	10	4	4				1	_		+	7	•16	+	_	+	12	-
Page 4 Page 4	188. 18 46 1000 JE8 1991	41	1033	14)	186	, ,	368	.983	.675	8	$\overline{}$	_	7	1	de	53	_	16:18	*	-
Page 4 T. VW. HT.	£ + 3. 236.350	10,	3	109	94	18	om	m	.40	.37		_		33	1	10/	+:			In	
The Collected by HT. VW. HT.	19000	10	+-	0	40	,	74					_						H	Н	2	
The collected by HT. VW. HT.		8	-/4	10-	¥	Н		Ц							7			+	+	14	
Hate collected by HJ. VW. HT.		6	3	116	1	-	17				1	1			74	وده	+	+	+	10	
The sollected by HT. VW. HT. Botto controllected by HT. VW. HT.		99	/9/	чķ	.45	+	14		-			T	T		İ	4		+	+	7	
4 ** The collected by HJ. V. HT. MASS. HORSE MASS. HASS. HASS. HASS. HASS. HASS.		1201	400	40	1	1	40				1	T	T	T	1	<u>_</u>	+	+	-	÷,	
H. Data collected by HJ. VW. HT.		134	7	¥.,	250	1	w							- dila		.0,			-	-4	
THE PARTY CONTRACTOR OF THE PROPERTY CONTRACTOR OF THE PARTY CONTRACTOR OF THE							1		100	100	144003		47.	11	1. 11	7					
								1080									BORR	.00	3		

			•		-			-	LINE	181	TEST RECORD	9				1								
25 WITS 1.0 M.	6	3	χ . Ι	25		×	2	MIL			19/0	X	C	2001	tors	5		ş		4	200	. 1	10	3
SPECIFICATION						'			MOEA	1	- 61	rot			8	CONTRACT	25	.]	100	3	P	12	00	
HOURS ON TEST	72	+					H	TEGERATURE	ATUR	_	3	v.			-	VOLTAGE	*	4	000	7	00			6.
28 July 1952	- 0		Clock fra	-	100	157	7	3'	71 nie		953		Clock	4 ×	do	,	166	2	To	Total Ec	Hours	9	0	*
							M	M	١.	TESTS		BETONE	LIFE	TEST	et.									
Sample Mumber	1 2		7	5	9	2	₩	6	ន	=	12	13	77	15	ું 9€	17	18	19	12 SQ.	21	22	23	J'SE	.52
Valtace man	1	+	+	1.	₩		\prod			Q	910	_	Q	11	110	C/	0		13	2	C/·	0	5	Y.
20000 = 30000	×	+	-	+	1	-	-		L.		5 , ≥/				6				08			1	2	
Shunt P. Mega-8747	5 K 100K	1K 100 K		100K 50K	K 90K		10K 70K 9	90K	25K	KOK	ra	90K	90K	25K	05 18	1005	90K	100K		30K	100K	90K	99 <u>/</u>	70K
on 135 V Meter				+	-						. =				50-				124				PIS	
	-	_				0		- 10	9	6	10/	000	30		100	0	3	0	رلمد	18	6.0	986	yro	960
10001 - bland	1471.783	-	967.783	17/10		0001	1/1	767	2//	4	10		-1	40	1	4 .	20	0	-	4	_		.5	
- 1	2412	+	20	,	,	6	l.	_	,	20	1.	0	15	30	4 /	36	3	3		100	18'	34	12/	34
ONC 1000101-10	-1	-	-	90.90	?	+-	+	-1		2	1			,	2				201					
	+	1	-	+	-	ļ	-				1				40				10			,	70	
		-	-	-	-	_	_	L							90								2/0	
	+	-	-	-	_	_	_				oh) oh		•		2				20				W	
LIFE TEST . FAILURES IN HRS.	3/	-			درا٠			m				90	4	*****		٠.	J			` `	×	96		
•	1	$\ $	$\ $	$\ $	$\ $		M	ELECTR	CTRICAL	TESTS	11	APPER L	1172 7	TEST										
Sample Number	1 6.2	7	7	5	195	2	80	3	9	1	12	13	7.	15	91	17	18	19	શ્	23	22	23	77	25
71/2	8XX	1	1 90K	1	2	755	1	4	90K	75K		. 6	75K		П	96K	60K	15K		FOK	90K	2		90K
V Merer	1	'al :	H	\parallel	4	\rightarrow	\rightarrow	10 6			'	100		13.00								44/		1
6	4	-	- 3	- 6	130		3		000	130		10 34	600	Ί.		625	8	30		1007	72.6	า	T	960
	1	-	402.277	7	_	2	100	•	2			18		24	Γ							14.		
Pawer Fater . %	36 25	.38	3.35	5.34	7	.37	.35		.32	.35		20	38	1		.34	.38	,33		39	,35			3
		PP	v	\perp	1	1	1	211				: 1		به و. به و.				T	T	t		71/20		
	17/	4	1	+	*		1					110		B -1					\int		1	10		
	40.0	404	+	+	10							9			1.				1	1				
	19	12	Н	Н	22		Ц	9				10		**			1	1		\		4		
4	4	25	-	-	W			*S				4		N N	-	1	1	1		1		200		1
Page 5	-							11.00		-1	Date o	201100	0025		Ž		1		1	3				1
								Charles and the second							CHANGE COLOR			The state of the s			-	The second second		

•						•		117 1181	Ä	P MCG	2											+	
25 WITS 1.0 4Fd	,	7 X	25	1	X	4		MI	,	1	14/4	1	400	BOC	citeri	7	4	10° 10.	٦.	Nobsr		401	
SPECIFICATION					1		FOR 1	MEDI	×	X	1010	Ž	•	3	CONTRACT		ġ.	10	459		27	7200	
HOURS OF TEST	+						TDOE	PERATUR	2	00	85	U			VOLTAGE	101	7	00	10	2		٠.	
Date started		Clock Tre		8-1	1340	`	A A.	riniehed	# L	1957	~~	ន្តដ	Clock fray	6	١	141	٥.	£	Total H	Hours	•	7	Ka Sa
11				of .				CTRICAL		TESTS B	BEFORE	TIFE:	TEST										
Sample Number 1	~	2	#	2	9	7 68 F	. 4	2	11 0		12 13	77	145	16	17	18	19	ଛ	2	22	23	龙	25
10/fode-2100De P					1	40		1	\mathbb{H}	H	\mathbb{H}	d T	4	0	¥				Ш	Ш	Ш		4
1		-	-	-	\vdash	41	Ш	L.	Н	H	H	·		100								_	
Shunt R Mega 8 BA BAK	100 K 10	100K 3	30K 10	100K 23	25K 2:		157	5K 90K	K 30	20K 75K	X05 X	K SOK	Som	25K	K 25K	K 73-K	50K	25K	754	75K	20 K	1000	00/
on 165 V. Meter		+	+	+	+	4/0	10:	+	+	+	+	+	- 1	191	1	+	1	\perp	1	1			
,	-	`			-	14	2/6	60.0	_	0		10	W.	200	10	550	000	927	0	0	6,0	0	200
196. 5 0001 - 14 or of 1961	14/	1.01/0.7	425.4	.4761.0	7.1007	6,22	7916	_	20.707	7 . 7 8 7	7	-1				₹	77	•			•		
7. Fr. + 201	10	6	5.5	32	25.	4	m	3.	3.31	30	(c)	50	12/	. 33	.32	2 315	18.	.31	.31	.31	.31	33	315
	1	+	+	_	_	103	45	-	\vdash	-	\vdash	Н				Ц							
,		-	H	Н		1		H	H	H	H	\sqcup	101										.0
				,	-	2	ס	-		-	-	-		,_	_	_	\downarrow						
					H	5	2.5	\vdash	\dashv		-		W			_							· ·
LIFE TEST PAILURES IN HRS.		(,)	31	,	-	-	31	η,	61 -	_						9/	*						200
							ELECT	CTRICAL	11	0	AFTER	117	TEST							4			
Sample Number 1	2	3	4 5	H	9	7 8		90	ź	Ц	12 13	77	15	91	17	116	314	ୡ	22	25	23	굯	S
Short P. Merae 77 # 75K	90K	60K &	5 60	×	75K 73	75K	4.1	4	.01	, 100K	K 100K	K 100K		60K	25K	7	-	100K	100K	ION	100K	8K	7
Ser Meter		4		-	+	+	70	10	10	4/8	+	+	-	1	-		1						7
		10	w	-	-		*	4	7 4	-	_					154	4	_					4
Cap. 17 4/4-1000 St 970	.637 /	1.008/	24.	1975 991	686 16	25	7	100	94	26.	3 .983	3/6.	1	686.	1979	01.3	10	.478	.626	2	.726	3	40
204.00	5	540		*	+	3.5	44	w	9	m.	7 33	35		34	.36	/	. 24	38	43	35	32	35.	
	4				+		.0	٠.	<u>ب</u>		H				\vdash	2	2/:-						35
		-	1.0	-	-		/	7/	10.7 12.	77.4	Н	Ц	Ц	Ц	Ц	17	W.						49
		r i	3/	H	H	H	a	19	并		+	4	1	1	1	*	07	ſ			1	Ť	19
	1	4		+	+	+	-	4			+	4	1	\downarrow	1	-	·		-	1	T	1	"
	\dagger	774	/12 3 /2 A	+	+	+	14	146	*	1	+	1	1	1		1	1		$oxed{T}$	T			2
, , ,		4	•	1.	+		4	1	1	Pete		collected	8	H		7	X	1	, adda				
0000								2 PS	CAMORES	۱	۱												١

																					-	
7	- 63	X	25		13	1	121	! !	My 10r	101	0	Bacutors	tot	14			10E NO.	7	10051		103	Jan .
SPECIFICATION	+	,				NO S	FOR VHOM	-	70	4	to,	,		VOLTRACT	~ I ·	2	100	3	5 3	2	0	
Dete started		Clock frav	M	1,3	285	1 0	Date finished	niehe	1			Clock	-	10	6.5	1/2	2 2	Total H	No.		1 3	1.1
7000			,						TESTS	BEFORE	13	TEST 3	£									,
Sample Number 1	8	7	2	9	6	w	6	2	=	12	13 14	15	2 16	17	18	19	8	,21	22	23	₹	25
11 3	++			₩	J	e.,	2			₩	1						Q.	-	P	V		+
		+	H		_	610		_	-			+	+	+	-	-		10 4			1	
14/4	95'K	100K 100K	25 X	X 90K	Yook	w h/	XOK .	70K	90K 1	40K	KOOK 10	100K 100K	X 100K	3001 X	X00/X	VCOK	100/	1	1004	/wk	130K	3
on 100 v Meter	+	+	+	-		241	+	1	+	1	+	+	+	+	+	ļ.,	1	.1.			1	
1 200 L 46 4 1000 S. 13	975	985 9	764 5164	4.953	.982	/	. 999	747.	. 121.	125.9	453.9	16.808.868	18.91	5.890	00.600	805. 6	356.	y . s	.972	414	346	1.00
6		_	+	-		13,			+	+	+	-	1	-	-+-	13	+	17/	- 1	0	20.00	
11. 12 lar - 16.3.	300	38.33	3 . 32	200	35	1	32	3,275	36		4	34 . 30	365 37	4	51.325	7	,70	_	:37	7	35	.37
	+	-	+	+			1	1	+)	+	-	+	+	<u></u>	1	-	1 1		1	,	
	-	+	+	+		10,	+	1	+	+	+	ļ	+-	+	-	+		4	ŀ			
	-		-			125				-	+	-	\vdash	-	-			W W				
LIPE TEST FAILURES IN HRS. L		=	TO A V	2				,	BOLL											i	1	
		4	\parallel			T T	ECTRICAL	11	TESTS	AFTER	11.2	TEST		#	-			1		1	1	-
Sample Number	23	3 5 4		390	2	80	6		12	12 1	13 14	15	3 16	17	18	19	8	21	22	23	72	23
١٠٠	75.K	16-	100	1	75.K		×	۔ ا	1	3K	T	KIS	1		¥	K Jook	took		75K		POK 1	100K
V Meter &		04	104	6,14				e por	4/19	+	+	+	+	+		1	7 24			100	+	
(30 m xtd - 1000 83	4.5	4/	5,980	om	.984		.658	960	94	.9/2 /	1.00 1.0	1.007.915	5 920	18.0	506 598.	7.6.7	.967		495	24	132	1.001
אים	-	-14C			3 5		1	4	130	,	300	1	_	300		3	36.7		0		1	3/6
•	IPI	101	475	1	_			-	٦/	+-	?	╧	2	-	1	+			2		2	3
		- 4	1.9	101				12	7.0	+	+	+	\vdash	\vdash	-						1	
•	-		2	.0			Н	"		H	H	H	Н	Н	Ц	Ц	Ц			4		7 10
/-		1-1	40	74	\prod		+	1	•	+	+	+	+	+	\downarrow				;	>	+	
7 4		140	∠ 70≥	-/4c		T	+	76		+	+	+	+	+	1					12		
Page 7		9	-			1	1	1		118	lected	4	1	1	3		77	1.	1	-		1

V. Winestler CONTRACT NO. Nobse - 5-7200 95 C Took # 11 - 1309 Total Hours 76 rests before life test
S C Clock # 11 - 1309 2100 VDC Tray # 11 - 1309 a Total Hours 76
Clock # // - /303 a Total Hours 76 BEFORE LIFE TEST
BEFORE LIFE
77.
-
111
None Name
369. 921. 964. 949. 972. 969. 873. 818. 858. 920. 871. 949. 436. 109. 939
V
101
13 Page 19 Pag
TESTS AFTER LIFE TEST
12 13 14 15 16 17 18 19 20 21 22 23 24 1
LOOKE SLOOK E HOCK BOX 100K F. ST.
10
1 200 12 125, 475 1 20 1 20 1 20 1 20 1 20 1 20 1 20 1 2
36
40 4
2/10/
/ <u>a</u> /
102
S PS AN
Data collected by HT. VW. HJ.

						*	-	121	TEST RECORD	200				-							
JW 0.1 81100 34	1-1	7 X	25		X	4	14	7,	N	4/0	2 4	000	1/2	540		7	10E NO.	- 1	Nober	1	107
SPECIFICATION			٠.		-1	-	FOR WH	WHOM /	N	In	170			CONTRACT		ġ	166	3	5	200	
HOURS ON TEST	72.7		٠.			H	TEMPER	PERATURE		8	'n			VOL.	POLTAGE		220	10	00	. · ·	
Date started		ğĒ	Clock of	13-	100	7	Date ?	finished	5. C.			Clock frav	•	. 6	108	.9	g.	Total H	Hours	50	Λ΄ · · · · · · · · · · · · · · · · · · ·
1	1		.,					3	E	BEFORE		LIFE TE	TEST	+							
Sample Mumber	1 3		7	5 6	2	₩	6	, 10; 10;	=	12	13	141	15 16	17	18	19	ୡ	22	22	23	₹
	Ya		\parallel		-		Q	12	11						-	Щ	0	it.	d	ď	D
-		-	\vdash		-	-		2			-		-	_				CA			
WAT P. ME WIELL	1,5 4	+	\parallel		Щ	Щ	*100K	9/5 9/5	14.K			\parallel	H	\mathbb{H}	\mathbb{H}	\coprod	16CK	20	1.J.X	100 K	OUR INDA
	•			-				100					-	-	+	-		74			_
1 13 4 (1. 10. 1-) L	21.8 162	971	753.7	757.9	156 37	1.949	7.970	1	928	973	623	153.7	757.9	4.00.4	921.76	4,156	186	1	177	122	118413
	-	-	_	+	+	\rightarrow	4	. 7			+;	15	1	+	-	13		2/	20	3	36
wer fully la	27 . 40	33	357 13	308	200	20 × 0	10	*	.38	163	9	1 - 1	51	+	4	"		7	1	1	2
		1.	+	+	+-	+		7		T	+	+	+	+	+	-	1	11		<u> </u>	-
+	+	-	+	÷	+.	+	1	4			1	+	+	+	+=	Ļ.	_	10		-	
	-	\dagger	+	+	+	+	1	1.			+	-	+	+	ļ	-		44			
		Ī		+	+	-		14.4				-	-	-	4			21			
PAILURES IN HRS.		1.	-		5				<i>ى</i> د		b		· Ver	حر			195			J. Ca	0/
			\parallel	╢,	F	11	ELECTR	E CE	TESTS	APPER	ER LIFE	TEST	11	#\`							
Sample Number	1 2	3 60	3	9 2	A.	∞	6	ខ្ព	211	17	-	14 1	15 36	17	18	13	&	23	25	1153°	24 S 25
200	1.04 100A	1	SCK.		MOK .				2 4			100K/0	OOKA	= 100K	KIUDK	K 100	04		100K	4	\$ 100K
,	-	درو ت د	10	-4	9.4	6			w			-		7	-	1				2	14
1 4 d 1000 1	915 311		9625	-	266	: .970	6 1.003		2	386		965.9	9. IS	4.939	186. 1	6.90	EM.		186	30	7.77
	-	194	10	- 1	V P	1	+		10	Ī	4	+	14	7,	+	-	100		7	1	
Wer [2. Tor- %	-	4	44	-	- 1	. /4	1			1	34	+	np	2 2	\perp	1	->			401	74=
	+		4		10,		1		21	T	*	+	2	PP	\perp	-	210		-	₹.	1/1
	-	10	1	17	4.	4.6	1		1/		10		17/	W	-	1	17	,	3	4/4	1
		10,	7"		>"	104						\vdash	103	. 4	Н	Н	7		2		•
		4 4	=/	01.	•				0		0,	Н	1	01			bio		3	0,	01
		10	**/	13		10			ピー		24	Н		T.	Н				/4		12
		00S	-4	50	4	40,			25 W				4	20	-1	4	21 01				25
6000									Dat		pollect	to po		H	2	3	HJ.				,

	1	10º 10. Nobst 108	Nobir 57200	2200 10c	Total Hours 72		20 24 25 25 24 25	*		100K		42 127 111 450 116 151 111	38. 04 04, 45. 38. 04. 45					2 mm		19 20 21 22 235 24 25	* 100 K E 11. \$ 100 K 100 K	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		38.40 .38 5 2 2.41.37	1.400		200	2000	40/		HJ.	
		CopaciTors	7-6 CONTRACT NO.	TOLLAGE	Clock # 10- 3826 Tray #	LIPE TEST	שנו זו או או שו		364	2 * (wk	7/2	2007 24 182 100 1	34.40 37 34	W	5/	- 1	2 %	,	LITE TEST	14 15 16 17 18	(GaK ←	7-	1996 969 658 . 989.	.47 .33 .35 .38							to the HT. VW.	A STREET ASSESSMENT
2	LIFE TEST RECORD	15 1 X . 5 MIL Mylaw	FOR YHOM	D SA BHILLIAMI	10 + 3054 Date Instand	LECTRICAL TESTS BEFORE	25 25 15 25 25	O - O - O - O - O - O - O - O - O - O -	417	2 S S S S S S S S S S S S S S S S S S S	/ -2	961 935 892, 963, 962, 975, 302, 921, 2	1/5	9 7	40	 5	su s	18 see	APPER	6 7 585 9 10 31 12 13	W W	V 1. 5. 10	116.77	10 - 22 10 -	7	13	/	**	189 100	92.4		
63		2.XI - by 6.1 stimes	FICATION	BOURS ON TEST 72.7	Tray			. 6 3 .	Valtage Expero De	Short B. Mein 125 100KK		Cap. 104 14 112 4 952 12 506 912 94	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12.50				LIFE TEST FAILURES IN HRS.		Semple Number 1 2 3 F4 5	46 JOOK JOOK 100K 5	7.54	Cap in Ald : 1000 7.953 457 943 3 7 95	70			W.,			4	10	268

SPECIFICATION BOURS ON TEST 72 Date started 12 Algust 1455 Sample Number 1 2	7										Control of the last of the last		1			1	DALFORD STATE				
OURS ON TEST 72 mate started 14553		X. 25	1	1	7	11W-	7	-	19410	1	6.0	1000	tor	7		103	10T NO. 1665	593	1	108	1
ours on test 72 and					•	FOR WHOM	*	7	7	101	4		CONT	CONTRACT	Š	Nobsr	1	5720	00	1	1
My ST 1455					H	TEMPERATUR	ATOR		15	9			Ā	VOLTAGE	N	300	7	00			
I // // // // // // // // // // // // //	5	Clock of	- //	130	m	le 3	finished	1953		-	Clock	**	- 11	138	7		otal	Hours		99	
Number 1					M	5		TESTS	BEFORE	7	LIFE T	TEST									
1042 - 79 F 100K	2	3	9 5		•	6	10	11	12	13 1	14	15 16		17 1	18 19	8	23	22	2 23	え	25
			*WOK	0. X	100K	V	1, 7,				\parallel			\parallel	#	1		\parallel	4	#	1001
				רעפ	,								+			1	-		- 1		~
136. [4. 100 1. 907 . 566	105	950.913	_	915	315	.926	306	166. 916.	_	376	313	6.126	.953.9	6 456	918 963	3.949	9 . 966	6.515	9.962	2 . 95%	77.7
9	0	200	200	110-	2	7	0.4	5	6	32	9.0	43	(a)	34	37 .3	35 34	.42	34	7	1,2	42
	+-	$\overline{}$	1	ile	-	-				+-	+	+	+-	1	1			1	-		T
16/1.16 - 2300DC PK		+	1	94	0	V			-				H		-			1			5
				24							+	+	+	+	+	-	1	-	4	1	
	-	-	7.	73						+	+	+	+	+	+	+	1	-	1	1	
	+	+	+							+	+	+	+		+		-	+		ini horo	
		+	+	419/	412				1	+	+	+	+	+	+	-	1	1			
		1								£0	1	-		· ·	4	3	-			1	
PAILURES IN HRS.	<u>×</u>	1)		4				7	000	\dashv		-	1	0	?	-		J		
		-			M	ELECTR	CTRI CAL	TESTS		APPER LIPE	E		7	,		-7					
Sample Number 1 2 03		33	9	2	8	6	9	17	12	\Box	7	15 46.	21 12	7 18	39	8	213	3 22	23	70	3
Short A Mega 80 Floor 100K	6/	100Kg	\$ 100K	¥	2	100 K		1	100K	Me	1004/10	S XOOI	9/0	VOUK LOOK	X S		X.	100K	Ų		100 K
	60	4								- 4	+	de	54		4	10	21		1		
Con 115 414 1000 1 103 967	10	20	368	00	0	116	255	.909	582	1/1/2	377.5	200	6-0	951 982	Z Ak	1	0	.7/3	1323	.778	165
Z C + 6, 20 20	*	ε λ	20	0	**	*	77	36	3		100	100	4	** **	19	12	31-	36	.75	.13	. 40
107161	400			1		٠		-		4	-		7,4	Н	10	14/	119	1	-		
	*/	1	4		.0		1000			75	12.	10/			1	20:	7		17.5		-
	121 201	94	يده							1		2//		-	0	5	1				
		1/3	?		4				7	4	+	1	-	+	4	1	40				
	1	1	1	1	-					20.		+	+4		4/	10/	13				
	164	*46	10/6		4					1			10		101	3	33				
D-20 11		1	1				-	A	Date oo	collecte	4 50		HT	11		HJ.		′			
-	C.1. 1002	200			101	-	1	8	CORPOR	10)		130					DRIDOD.	J. 1	3		

### 50 At 9 word 1953 First Firs	414 0.5 19.53 17.44 15 16 17 18 19 20 21 22 23 24 15 22 30 24 15 22 30 24 15 22 30 24 15 22 23 24	Clock # / 3 -
9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 7,776,939,972,959,957,953,964,963,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,978,929,929,929,929,929,929,929,929,929,92	9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 9 10 11 12 13 14 36 .42 .41 .34 .36 .36 .41 .33 .37 .35 .34 .77 .35 2 2 37 .44 36 .42 .41 .34 .36 .36 .41 .33 .37 .35 .34 .77 .35 9 10 11 12 49.14 .18 15 15 15 15 15 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
476.939,912,950 952,953.964,913.072,929,910,952,979,922,591 2 2 2 39,914,36,342.41,34,36.36.41 33.37 35.37 35.39,77.32 4 10 11 12 43.14 15 16 17 16 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 19 20 18 18 18 18 18 18 18 18 18 18 18 18 18	32.39.912.550 957 \$53.912.522.912.522.912.952.912.532.37.32.34.17.32.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.37.32.32.37.32.32.37.32.32.37.32.32.37.32.32.32.37.32.32.32.37.32.32.32.32.32.32.32.32.32.32.32.32.32.	2
1.32.39.41.550 957,453.946.943.978.929.910.959.378.936.911 2. 2. 37.44.36.342.946.943.978.929.910.959.378.936.911 1.20781CAL TESTS APTER 1178 TEST 9. 10. 11. 12	976. 939, 912, 959, 957, 953, 978, 928, 912, 928, 912, 933, 937, 932, 932, 931, 934, 943, 978, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 912, 928, 928, 928, 928, 928, 928, 928, 92	
1.32.37.44.36.42.966.963.966.963.978.929.912.972.37.35.37.37.36.391.136.36.41.35.37.37.35.37.37.35.37.47.36.912.92.912.92.912.92.912.92.912.92.92.92.92.92.92.92.92.92.92.92.92.92	776. 939, 912, 950, 957, 953, 978, 929, 919, 957, 3778, 932, 532, 911, 324, 335, 371, 335, 371, 335, 371, 335, 371, 335, 371, 335, 371, 335, 371, 335, 371, 371, 372, 372, 371, 372, 372, 371, 372, 371, 372, 371, 372, 371, 372, 371, 372, 371, 372, 372, 372, 372, 372, 372, 372, 372	
1.32.39.44.36.42.41.34.36.36.41.33.37.35.34.79.35. 1.207RICAL TESTS AFTER LIFE FEST 9 10 11 12 41.11 15 16 17 18 19 20 21.22 21 24 1.207RE Elocklook	22. 37. 44. 36. 42. 41. 34. 36. 36. 41. 33.37. 35. 34. 79. 35. 37. 47. 35. 37. 35. 34. 79. 35. 37. 37. 35. 34. 79. 35. 37. 37. 35. 37. 79. 35. 37. 79. 37. 37. 37. 37. 37. 37. 37. 37. 37. 37	412.914
12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20 20 11 12 43. 114 15 16 17 18 19 20 21 24 277 4 1 39 12 20 21 24 277 4 2 3 42 3 42 3 42 3 42 3 42 3 4	.33
12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 20 20 21 22 22 24 20 20 20 20 20 20 20 20 20 20 20 20 20	
1. ECTRICAL TESTS AFTER LIFE TEST 9 10 11 12 11 14 15 16 17 18 19 20 121 22 23 24 1 17 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 20 11 12 41: 14 15 16 17 18 19 20 21 24 2 17 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
1. ECTRICAL TESTS AFTER LIFE TEST 9 10 11 12 43. 14 15 16 17 18 19 20 321, 32 24 8 20 11 12 43. 14 15 16 17 18 19 20 321, 4 1 18 19 20 321, 4 1 18 19 20 321, 4 1 18 19 20 321, 4 1 18 19 20 20 20 20 20 20 20 20 20 20 20 20 20	9 10 11 12 413. 14 15 16 17 18 19 20 21 22 23 24 100K 100K 100K 100K 100K 100K 100K 100	
477 4 47 47 47 47 47 47 47 47 47 47 47 4	9 10 11 12 47. 14 15 16 17 18 19 20 21 22 23 24 47 47 49 49 49 49 49 49 49 49 49 49 49 49 49	
477 4 4 42 44 4 4 4 4 4 4 4 4 4 4 4 4 4	177 4 C. 912.954 × 9.40 76.5 ° 7.74.792.912 × 9.5 ° 7.7 ° 7.7 ° 9.5 ° 7.7 ° 7.	2
477 4 6 912 954 Y 960 965 0 97 4 6 97	47 19 14 19 14 19 14 19 19 19 19 19 19 19 19 19 19 19 19 19	100K (00)
47 16 5 43 . 42 . 41 .39 . 40 . 41 .39 . 41 .38 . 40 . 41 .38 . 40 . 41 .38 . 40 . 41 .38 . 40 . 41 .38 . 40 . 41 .38 . 40 . 41 . 41	7 - 42 - 43 - 42 - 41 - 39 - 40 - 43 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 39 - 40 - 42 - 41 - 42 - 41 - 42 - 41 - 42 - 41 - 42 - 41 - 42 - 41 - 42 - 42	37.913
101/101/101/101/101/101/101/101/101/101	Pate 20110cted by 1/0+ 1/2 1	30
2 90 40 / h/	Pate 00110cted by HJ. VW. HT.	
10/6/ 10	Pate collected by HJ. VW. HT.	1/2
N 22 4 2 5 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5	Tate collected by HJ. VW. HT.	
	Date collected by HJ. VW. HT.	754

						4	LIFE	TEST RE	RECORD				1			T		1	#	
SPECIFICATION	7	2 X.	25		×	POR WH	MOEN	17	4/01	15	200	1/8	CONTRACT	. M	36	7 NO.	de ?	720	10	
	27 7		-	-	i	TEMPER	ATURE		25	U	1 1 1	•	VOLTAGE	, (300	1 0	00		1	
Date started	1	Clock	01	- 3826	١.	Date finished	finished	Ø 1	4	មិល	Clock	0/	w w	8		Total	Hours		K	1
leaker!						ELECTRICAL	∛	STS	BEFORE	3	TEST 3									
Sample Number	1 2	3	5	9	2	6	ន	=	12 1	3 14	15	16	17	18	19	8	21 2	22 23	え	25
Valtage-130010	V				$\parallel \parallel$				+		1		2		+		+			0
W 0+ 10		+		1	+	-		+-	+	+					+	+	+	+		Kou
Mun! 7 1709451F 100K	××000	-			-	<u> </u>					-				+	-	-	-		
Cap 1746-1000/21.001	666	970 962	967	1990	978 9.	933,977	956	.970.9	934.9	975.90	12	116.916	383	966	1011	993.3	320.9	.962.943	196.	972
Buer Pater %	37 .84 .48	48.35	,39	.39	38 .43	3 .40	38	54	38.3	04.80	2	16	β	30	38	12	35.3	9.34	.39	17.
- ,		-		+	+				+	+	-			+	+	+	+	+		
	+			+	+	-		\dagger	+	+	.	-	1	+	+-	+	+	+	1	
0	+	+		-	+	-		+	-	+	- +			1		Н				
					H									1		-	-			
TAILURES IN HRS.	16.	44 11.5	, D	<i>P</i>	77		1		10 7	w	<u>,</u>	-	As to ke	*	7	1 44	10		*	7.5
			,		1	ELECTR	CTRICAL "	TESTS	APPER	117	TEST									
	F1. 725 W	3 5 045	3	\$6. K	2 8	6	300	11	416 913	3.04	15	16	\$17.	48.0	419, 20	, 421.	22	\$ 23	345	\$25
Short P. Mar. 28	200	4	1-	₹ *-	-/	100K 100K	5.0 1/4	OOK	2.14	16	4	100K	14	11	10	**	44	1000	4	50
	M	4,	4	50	\rightarrow		w	0	4	04	10	_	1	19	04	عاد	ونو		ga	4
Cop 1746-1000 %		10	24	1	7.6.	13.984	34	973	3	77	7	.922	レート	42 3	1	1	-4	37.4	4/	100
10 + 7	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	17	200	44	70	33	_	0.0	18	45.	30	36	24	0 8	44	14	18	27.45	194	44
0	01		10-	10	2/		101	Ý ·	94	100	21		40	P	10	-	10/	2	1 -1	1
		2.) . A	17	PA	1	(;)	3 4	, "		0		4	,4	4	1.	2		7	1.1
,	% %	7	1 /2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	/:1 	4	-	٠ <u>٠</u> /	-1	**************************************	XX.			2/		112	//e	200			8
	194	•			+	1	2	*	40	*	140	I	4	*	1	, <u>}</u>			9	
2	4 b/	本。	10	100	01/1 10,	+	**	19	4	¥,		I	70/	10/	12/	70/	10/	1/20	10/	*
2	20 40 0	144	164	100	25	1		74	25	.u .	184		166	24	35	3	1		12.5	25
D				1				Ä	10	ollecte	8	3	7	X	#			1		
TOPE /3		6.1. 1002	2		POR			8	PORA			1000			1	DENIDOD.	DD. NA	3		
	1										1	1							200	

SECULO 19 14 - 2 × 25 - 1 × 5 M11. 19 10 10 10 10 10 10 10 10 10 10 10 10 10		I	l	I	I	I	I	I	I	l	l	l	I	l			I	I			The same of	Total Control	
10 M 3 25 7 25 7 25 12 12 12 12 12 12 12							•	117	17.	17 RE	CORD												
Tight 104			25			7.5	E	77	1	-	1	20	00		27.5			OF . NO	1.	265	1	112	
1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 Shinker 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 Shinker 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 Shinker 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 Shinker 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 19 20 21 22 23 24 Shinker 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 17 16 17 17 17 17 17 17 17 17 17 17 17 17 17	SPECIFICATION	1					POR	MEN	1		10	1	2		CONT	- 1	1	166	15	, ,	1	0	
Market 1962 Tray	TEST 72		-			· 1 :, ·	TEN	ERAT	URE	00	6		10.		VOL	TOT	~	0	7	0	- 1		
Munder 1	Date started	BE	Tock		١.	2	100	An t	i she		1		Clock	••	1		7	. 2		lours		٦.	
Marker 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 24 24 24 24 24	, cotas			-	1		ELE	TRIC	A A	-	BETO	13		ST									
124 124 P. P. C. 37 127 127 127 127 127 127 127 127 127 12	Number	-	3	ď	9	6		0	-	-					-		-	_	-	22		72	25
13. 11. 12. 13. 13. 13. 13. 13. 13. 13. 13. 13. 14. 13. 13. 13. 13. 13. 13. 13. 13. 13. 13	Q	#	\prod				+	++-	#++	# -	#+	# 4	+	+				#-			1		9
14) 10: 10: 10: 10: 10: 10: 10: 10: 10: 10:	1	1_		-							-			-			-	-					
EST 18 HRS. 7	71.6						+	+	+	++	\parallel	+	#	4	+	+	+						7
### ### ### ### ######################	r	1	-			-				1	1	+	1	1		+	-	- 1	6	1	.0	100	3
EST HERS. Z. 17 72. 26 34 70.38 36. 44 37.39 40 39.38 22.53 37.39 40 39.38 22.53 37.49 43.99 20 21.25 37.49 49. 49. 49. 49. 49. 49. 49. 49. 49.	111 AF J. 1600 1. 177	-		161			-	1	72	5	3	-	0	>	3	7	-	.;			`.	- 73	2
EST HERS. Z. " " " " " " " " " " " " " " " " " "	Fate: - 96.36	700	4.7	36		+	38	1:1	+-	+ 7	2	0	0	2.3	+ -	1-1	· ·	1	3,5	37	7	44.	3
Number	1				7		+	+	+	+	+	+	-+	+	+	-	+	1				1	
ES 18 HRS. 2 ES 18 HRS. 3 ES 18 HRS. 3 ES 18 HRS. 3 ES 18 HRS. 4 ES 18 HRS. 4 ES 18 HRS. 4 ES 18 HRS. 4 ES 18 HRS. 5 ES 18 HRS. 5 ES 18 HRS. 5 ES 18 HRS. 6 ES 18 HRS. 6 ES 18 HRS. 6 ES 18 HRS. 7 ES		-			+	+	+	+	+	+	+	+	+	+	+	+	+	-	1	1.			
ES 18 HRS. 2 Fu. 5 G G G G G G G G G		+			+	+	+	+	+	+	+	+	+-	+	+)	+	-		ŀ			-
EST HIRS. 7. OPT SERVING LATER LIPE TEST BURDON (ST. 12 3 FL. 5 6 7 588 99 10 016 12 119 15 166 17 08 019 20 21 02 162 17 10 10 10 10 10 10 10 10 10 10 10 10 10		-	-		T	+	+	+-			+	+	++	\vdash	++	-	1						
Number			e 30				-	م	,,,	. 7	00	د م	8	4	· b	9				γ,	43	7	1
3. W. J. C.				1	1			RIC	11	STS	APTER	111									1		
21/10/2016 1000 1000 1000 1000 1000 1000 1000	(1 t	-	7	2	9	1		7				. 4	Н	36	. 40	9	610	\vdash	2	1 -1	453	24.5	25
	S. P. S.	-	tuo	Nook		OKS		P	×	10		12	¥			I V	1 -		1	u	50	4	1001
	10		4) N	61 W	$\overline{}$		_	04	_				90	0	-		ro	5		
	468-1000 X 10			972	-	118	D	-		-	77			5	2	1	1	-+	٠.	41	2	74	17
6 2 4 2 5 5 6 6 30 3 3 3 2 5 5 6 5 3 6 5 7 3 6 7 3 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5	16		75			3	4	100	73	41	**	5	*	1		10	2/	+	-	4	24	1	18.0
1	Toster- SER	\rightarrow	4	30	\rightarrow	_	- 1	-1	0	-		. 1		41	5	130	2	-	بى مى	10.	4	1	38
1		+		T	,,		- 17	***	1	7'	43	4-	4	0	2/		d.			1/	25		
TO T	200	+	10	T	1.	17/	-	1	12	, 5,	*	P	-	47	1.4		مراج			10/	1	2//5	
	//c	+	1			1	111	1	10.	1.4	18	1	1	2		10	1,0			2	3		
14 14 1000 000 000 000 000 000 000 000 0	101	-	Ι,			1	7	4,	1	01	94		7		P	77	1			101	10	101	2
14 F. L. 1002 FOR THE THE CONTROL OF HT VW. HT.	101.					9/	7	4	0/	20	×.		10/	10	6		9/			北	1	P	
14 14 HT. VW. HT.	as w		2			0	38	194	4	9.	S.		3	200	-	4	14			25	25 W	25	1
MATERIALISM TIESE C. L. 1002 CORE DESPECTATIVE CORPORATION DESCRIPTION DESCRIP	14									B	1000	lecte	-	Dillo.	7	14		7					
	939		1000		,					L	₩-				E STATE OF					37530			

2 TEMPERATURE 8-5 POR WHOM Minned TEMPERATURE 13 POR WHOM Minned TEMPERATURE 15 POR WHOM	CONTRACT NO. 16. TEST TEST 15 16 17 18 19 997.932,934.984.969.9 945.33 43 44.42	5.7.200 5.7.7.200 5.35.30 5.8 5.	113 1000 V V P P P P P P P P P P P P P P P P
746. 970 K 13 - 1/8 2 Date Finished Tray 13 - 1/8 2 Date Finished	TEST 701.762 NO. 701.762 Z 15 16 17 18 1 747.752,734.784.9 745.39.43.784.9 75.39.43.44.9	22 23 23 33 33 33 33 33 33 33 33 33 33 3	10 10 SE SE
746.972, 901 902, 902, 902, 902, 902, 902, 902, 902,	TEST 15 16 17 18 19 747 .932,934 .784,969 .9 75 .39 .43 .44 .42 .4 56 . 3	21 22 23 21 22 23 2.976,837.838 2.90.35.30	12 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Clock # 13 - 1182 Date finished Tray # 13 - 1182 Date finished ELECTRICAL TESTS BEFORE ELECTRICAL TESTS BEFORE THE STZ. 901.906.920.951 .763.947,727.961 .894 33 .40 .36 .32 .32 .43 .54 .50 .49 .41 .39 .41 ELECTRICAL TESTS AFTER 1 ELECTRICAL TESTS	15 16 17 18 19 15 16 17 18 19 997 932,939,984,969.9 95 39 43 49 42	21 22 23 21 22 23 746,837.933 49 58 5.	12 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
ELECTRICAL TESTS BEFORE 2. 1 2 3 4 5 6 7 8 9 10 11 12 13 2. 977 .996.972.90.902.957 .563.997.727.961 .896 3. 977 .996.33 .90 .36 .38 .93 .93 .59 .59 .50 .99 .91 .39 .91 1 2 3 Elyps 2. 978.932.96 .982.962 .982.96 .982.	15 16 17 18 19. 15 16 17 18 19. 947.932,934.989 95.39.43.44.92	21 22 23 776, 737, 738 49 58 5.	70 1 SE SEE
2 3 4 5 6 7 8 9 10 11 12 446.972.901.906.920.902.951.963.947,927.961 33.40.36.38.38.49.54.50.49.41.39 7 80 22 80 22 80 40.41.38 80 22 80 40.41.39 80 22 80 40.41.39 80 40.41.39 80 40.41.39 80 40.41.39 80 40.41.39 80 40.41.39	15 16 17 18 19 947 .932,934 .984,969 95 .39 .43 .44 .42 5 .36 .43 .45 .45	776, 837, 938 49 58 5.	7 1 10 Si
33 .40 .36 .38 .38 .49 .54 .50 .49 .41 .39 7	947.932,934.984.969 45.39.43.44.42 96.50	49 58 5.	1 1 00 SE
746. 972. 901. 906.920.902.951. 963.947,927.961 33.40.36.38.38.43.54.50.49.41.39 80.22. 80.22. 80.22. 80.22. 80.22. 80.22. 80.20. 80.	747.932,934.984.969 45.39.43.44.42 90.39.43.44.42	49 58 5.	1 02 SE
746.572, 901, 906, 920, 902, 951, 963, 947, 727, 961 33.40.36.38.38.49.54.50.49.41.39 80.22 ELECTRICAL TESTS AFT 84.56.984 1 5 6 7 8 9 905, 112, 12	747 .932,934 .984.969 45 .39 43 44 .42 90 5	776, 737, 935 49 58 5.	026 SE 100
746.972, 901,906,920,902,951,563,947,927,961 33.40,36.38.38,49.54.50.49.41.39 80.32,40 ELECTRICAL TESTS AFT 160.9804 1 5 6 7 8 9 905,015, 12 160.9804 1 5 918 932 918,967,962 515	747 .932,934 .984,969 45 .39 .43 .44 .42 90 85	746, 837, 935 40 .35 .30 49 58 5.	SE SEE
33 .40 .36 .39 .39 .49 .54 .50 .49 .41 .39 .41 7	7. 45. 39.43.44.42	. 40 .35 .30 49 58 5.	28. P. B.
TEST RES 1B HRS. 1 2 3 40 36 38 39 39 39 39 39 31 11 1 2 3 44 5 6 7 8 9 40 4 12 13 1 44 - 1220 14 53 1 14 9 9 9 9 15 3 15 15 15 15 15 15 15 15 15 15 15 15 15	181 S	5 85 64 5 58 5	S. See
ST. ST. ST. T. ST. ST. ST. ST. ST. ST. S	390° S. 36. 36. 36. 36. 36. 36. 36. 36. 36. 36	80 P.	Ane E
SIN HRS. SIN HR	2 Ser. 30 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	86 %	Mee_
S IN HRS. S IN HRS. Mumber 1 2 3 44 5 6 7 8 9 905 11: 12 13 Megn. 26 100 100 100 100 100 100 100 100 100 10	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	58 5	See.
SIN HRS. SIN HRS. FILECTRICAL TESTS AFTER L. Mumber 1 2 3 Ely 5 6 7 8 9 300 112 12 13 Meyn BF 1940 1951 1960 1952 196 1952 1952 1952 1952 1952 1952 1952 1952	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	58 5	BLE
ST ST HRS. SIBHRS.	7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	58 5	ONE W
Mumber 1 2 3 44 5 6 7 8 9 905 915 12 13 Megn. 26 100K 100K 100K 100K 100K 100K 100K 100	TEST 9		
Mumber 1 2 3 Et 5 6 7 8 9 305 pll 12 13 13 13 14 14 14 15 6 7 8 9 305 pll 12 13 13 13 13 14 14 100K 100K 100K 100K 100K 100K 100	OF 12 50 11 10		
Megn BE lack look look look look look look look lo	F4 204 14 04 544	2215 \$2 : 723	52 Sη€
14-1000 X 931 960 984 1 8 932 914 1967 962 21 5 3 3 5 915	100K \$ \$ 100K 100K		3 \$ 100
960 986 1 5 918 932 916 .967 982 XX 3 915	h h	4 1 W 4	ou e
4.40.0	933 \$ \$ 639.956	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 77
90 15 15 15 15 15 15 15 15 15 15 15 15 15	5	100000	35
(35 36 35 137 37 15 15 15 15 15 15 15 15 15 15 15 15 15	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 4 2 .	200
	2.1	1 5 6 5 1	4.5
	=/.	1011/11/11	14
19.09		- No. 1	
10,1	K 2	1018161	101
01	2.8	アンドンドン	20
	201	N 50 10 10 10 10 10 10 10 10 10 10 10 10 10	5.4
Bass if Date collected	ctoe by HT. VW. HJ		
ENGINEERING THES. C.L. 1002 TORS MATERIALISM		DENDOD, NASS	

																				4	
						,	111	2	TEST RECORD	3				1	-			,		H	1.
25 UNITS 146d	2X.	25.	K.	5	716	1	Mylar		Copac	100	A !	5	. !		- 1	ន	9	10	150		14
SPECIFICATION	Experim	nento	10	+	1	2	No.	1	. W/1	-	14		8	CONTRACT	CF #0	1	100	1	122	00	1
HOURS ON TEST	72 +					T	TEMPERATURE	IRE	85	200			٠ ١	VOLTAGE	20	230	100	100			
	0,00	Clock	7	121	8/	Date	o finished	S	6	1650	,	Clock Tray	^	? 1	502		Total		Hours	74	ć <u> </u>
September 1	0		-			ELEC	CTRICAL	-	, m	BEFORE	3	TEST									7
Semple Mumber	1 2 3	3	5	9	2	100	_	54	थार ।	12 13	77	15	91	17	18	19	8	12	22	23	24 25
Voltoco. 23000	#+				\parallel	1	Q.			Ye	-	of the contract of the contrac		7							4
		-				Н	4	1	a	H		Ц							+	+	+
Shurt R Meg. SEINOK	2 X X	Щ			\parallel	7	NK.	4	8 100K	K	\parallel						\parallel	\dagger	$\dagger \dagger$	#	×1004
		-			+		10	-			+		-+		-	1	-	†	1		_
Cape 1 n 464. 1000 2	965 935.979	9 960	434	.975	951	947.8	353	"	1 .953	3	3.808	196	133	.88	955	63	230	355	977.5	773.9	951.142
-	. ;	+	0	27	+	+	7	J /	17	+	100	+	0	2	15	2	2	00	200	15	37.41
COWER LOCTOR - 10	35 37 37	137	00:	-	2	1	39	1	91/2	137	1	3:	2	-			+		-	+	
	1	-		1	1.	+	1	0	4	+	-	-					T	-	-	-	-
	+	-		1	-	+	0	5	10,	+	-	-	!			1			+	-	-
	-	+			+	+	42	70	4	-		ļ -	<u> </u>					-	-	-	
	-	+-			-	+	10	14	26	-											
LIPE TEST		11	il .	,		1		10	-					۰.			- 5		v	. 0	33
FAILURES IN HRS.	+	فكح	?	า		~		•	109					ew			2		0	,	\exists
						I	CTRICAL	11		AFFER	117	TEST									
Sample Number	1 2 03	7	5	9'0	2	8	9 10	11	Н	12 13	7.	52	91	17	18	67	8	22	22.	23 24	25
Shunt P. Mess. 82 Allonk	A MAK	P/-	29.	4	boK?	3/	OOK	-	100K	¥	\parallel		100K	24	DOX	100K	1	100K W	.,,	DOK 9	\$ 1001
	1_	.,,	4 5			\vdash	H	Н	H	Н	Ц			17		7			10	_	-
Car. m 46d-1000 &	966.930	10	0	5/s	967	6	958	-	.83	8.958	3.911	365	.965		3	983	13	822 0	\rightarrow	975	· 28
	18	P	7		_	2	+	+	-	-	-	1			1		- 1	٠.	-	44	100
Power Factor - la	33 31 3	39/ 19/		44	.30	4	3/	+	36	33	32	30	3	10	.35	77	- 1	2	2	Xd .	5
	-	125	-	10	4	•	+	+	+	+	1	1		-\/ -\/		1	7	1	۹,	4	Į.
1		4	4	*	7	1	+	+	+	+	1	1		7.4		T	16.	1		1	8/
	100	7	4	7	1	*	+	+	+	+	1	1		1			3	160	*	1/0	
		L	*	40	Ť		+	+	+	-			1			r	**	ľ		4 -	tro
	**	*	10/	1/1	19	4	-	-						19		1	101	10	9	4	闘
	4	90/	100	25	-	25		-						₹ 5			25	*	6	3	35
Boe 16							10000		Pate	118	petee	2	#	1	MI						
THOU THE PARTY		-			-	1		1		DIAMER				100000				DREDOD.	3		
					1					ш							STATE OF THE PERSON NAMED IN				Ī

		74.1							1	-	2000													;
•	Ţ	2	1						7117	IEST	KECOKD	9				1						H	L	
25 UNITS 1.0 4/	1	2X.	25	•	7	3	mil	11		741	lar	Ü	000	011	tors	5		3	P NO	10T NO. 1/065	590	V	1.15	Z
SPECIFICATION	EX Per	111		10			F 4		MHOM	1	Z	-			0	CONTRACT	_	No.	101	35.	5	72	00	
HOURS ON TEST	727	1					H	PE	PERATURE		3	o,	4			VOLTAGE	101	7	00	01	U	4		
Date started			Clock	-	-//	1412	Γ	Date finished	finished				1	Clock Tray	>	-	764		2	Total H	Hours	a	7	,
- Schrember	2	n		+			M	ELECTRICAL	15.	TESTS	BE	BEFORE	13	TEST										1
Sample Number	1	-	7	- C	9	,	•	0	2	=	12	17	77	15	16	17.	18	19	8,8	21	22	23	え	25
7.4	1	+			#1	Ш	1	1				1	\parallel	1	Щ		4	+	41	11		#1		-
Louis of the Land	4	-	-		1	1	1	1			1	L	1		-	1	-	1	50	-	_	V	1	
54 TR Mes 8 : 30 8 100KK	JANK K	+	-											\coprod	Щ	\coprod		X100K	+	100K	1			1001
		1				L	_			_		,												
(25. 10 41d- 1000 35	.950 963	+	9591.00	166.8	1.960	196.	.946	141	.996	.963	.905	156	.979	680	1992	935	146.	17.6.	140	958	.970	988	. 76	2.978
		+	-				_												41		-	:		
Power Porter - 16.72	.42 .38	8 .33	3 34	.34	1.32	.35	.43	,72	.40	.38	39	.40	36	04.	37	.36	.37	14.	.2	35	39	.35	14	.40
	• • •	-	_										-	_			- 2	-	- 1		2		1	
			_	-,-										-	: !			1	19					
	- 1		+	_	-		_								-	-	-		- 1	1			1	
		-	+	1	1	1	1		-			Ī		1	1	_		1	766	1				
		-	-										\parallel				1		V					
FAILURES IN HRS.	eper 2	10		4	=				m	8/			رمي	ON WE	6000		,	7	10/4.00		1	1/2	e, i s. s.a.	
C		$\ $	$\ $				M	ELECTR	OF RI CAL	TESTS	S APPER	•	-	TEST										
Sample Number	7.5	2	7	3	395 3		80	6	100	2115	12	13	2	e15	36	17	18	619	8	22	42.	23	72	25
Shunta Mega-856	19/	16.	100	1	10	100K	1		6-	6.4	100 K	JOOK	3/	4	M.	100K	-	44		JOOK	41	100K	100K INCK	IOOK
	4	104	* **	9	4	-		•	0-	4	_		1-	10	10			30		49	0 8			
Cop. 17 41 d- 1000	04	٥. ٥	1.004	7/		116:	.955	.952	1	ک مرو	.907	957	2/ €/	1/1	27	1942	. 950	H		196	1	183	.971	446
	A	244	20	1 3	4 84		Ц	\rightarrow	12	PN	-		2	1	24) 24	_		44		i	100			1
PWET laster 16		-	35	· v	4/	.6	34	5	**** • • • •	V	.39	.12	14/	4	,,,,	5	13)	2/2		.32	40	.36	.34	134
	140	101	de		3	1	1	1	. 0	1	1		15	7	41			25.			4			
,	400	510	7 2	101	12/	_	-	Y	10/	1	. 17		4	1 19	9			24.	11		3/3	10-10	1000	
	000	*	-	10-	10		-	1	4		12	-	10	10	4			10	2.8	1				
	1 5 0	4	401	1	2	L	L		1	10	-		18		24						01			
	1/0	19	12	1	5/4	-			10			-	70	10	9			65	1		7	100		· ·
	W 19	05	26	W	30			,	53	23			19	F. 50	19						200			
Base 17										-	Date o	0110	cted	4	HT	1:	W-	HJ.						1
ENGINEERING DEPT.	0 185	3	C.L. 1002	~	1		101	5	200	0	CORPORATIO	METO	-						2	KORNOOD,	3	2		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	The same of the sa	186 to 187																1000000				Sec. Sec.		

10. 11. 12. 12. 12. 12. 12. 12. 12. 12. 12			•					LIPE		ST. PE	CORD									93	Maria.		
SECTIVATION ELPERIMENT 1 1 1 1 1 1 1 1 1	LS UNITS 7.0 MEd.		N		X . S	111	·M.	14		2000	ita	1					-	OF NO	7	265	R 1	116	
The Part of the test of the	ICATION E	Per	men	101			20	MOEN		1		107	14		CONTE		.0	466	2	5	~	0	
	7	12 t					T	PERAT	URE		,				VOL	TOT		0	10				
	Date started	1660	CIO Tr	**			4 ,	o fin	1 shed	1	,		Teck	•		P)		ဍ		lour.		2	
	150 110 100 100						ELE	CTRIC		STS	98.30	7 3											
11. 1002/19-19-19-19-19-19-19-19-19-19-19-19-19-1		-	-	-	-			0			100			_	-	-	-15	8	-	25	25	7	25
STANDER P. 1. 13 S. 12 S. 17 S	+	#	+	+	#	1	•	+	#	#	₩	J	#	+	+	+	ط		#	1	1		1
	70005 - 2500t	¥	-	#				#	$\dagger \dagger$	\parallel	#	+	\parallel	-	+	1		4					1
11. 100 (2) (2) (2) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	P. C. T.		+	+	+		1	+	+	+	+	+	+	+	+	1			1.			,	300
11. COOL STATES CO. 17. 17. 17. 17. 17. 17. 17. 17. 17. 17	17 / Kg	Y.	-	#			#	+	+-	╟	\parallel	-	-	-	1	100	54	_		Ŀ			200
S. 1N HRS. 1, 1, 1, 1, 1, 1, 3, 40, 41, 41, 32, 33, 37, 74, 14, 90, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 45, 96, 37, 18, 19, 10, 40, 40, 45, 96, 37, 18, 19, 10, 40, 40, 45, 96, 37, 18, 19, 10, 40, 40, 40, 40, 40, 40, 40, 40, 40, 4	7	18	000			000	_	313	2	100	_	20.9	50.6		+,	6	1	+ :		.971		555	
S. S	1	12	1	. 1			-	4	3	+	+	-	1	+	7-		14	-					
S. I. H. H.S. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Forter %	33	-	*	•	33	_		+-	7	+ :	-	-	+	+ -		200	'n	7		.40	37	3
S. IN HRS. () () () () () () () () () (+			_																
S 1 HRS. 1		-	-	-						. ,	_		-			_	/7						
Number			-						_	-				_									b
S. I. HRS. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	/		-	-		-		\parallel	H	\vdash	\vdash	+	+	+	-		904		1				
S 11 HAS.	1	_	-	-				-	+	\dashv	+	-	-	-	\parallel	-	2		-				-
### Dec 19 12 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	TEST RES IN HRS.	Cony	=	C ₂		9	B		8	وي	•	ü	<u>m</u>	7	4		10/404		Co.	4000		7	
11.1000 % 12. 12.28 17. 15. 10. 10. 10. 10. 10. 10. 10. 10. 10. 12. 13. 13. 14. 15. 16. 17. 18. 19. 20. 22. 12. 12. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10		-	1				1	CT RIC	11		AFFER	••	11		4								
	•	\$ 225	10 2 5	\vdash	9	25		6			-	2	-	210	6	17	13	8	3	123	23	545	3
Tetr - 26 10 5 10 10 10 10 10 10 10 10 10 10 10 10 10	Alex 995	7	0.0	1	-			100	41	101	100	4	7	14		29	L	100%	-	14	100K	14.	100
(ato, - %) of the state of the		W D	7/ PA		-	0.	W		411	4	_		100	0	4	1			7-	6 3		100	
	1000/1941	24	30	16.	_	1	24		7 52	8	_		10	1	1	0 1		426	×.	12		7	993
(42-6)-2/4-5/4-6-45-6-45-6-45-6-45-6-45-6-45-6-4		1.	41	80		1	-		-	Ð	_	18		1	4	1			<u></u>	8		*	
	Fater-	10	4 8 4			*	34	·	•	14		2		94		12.		S	¥4 ¥4	0		-	7/6
100000 MARCON MA		17	21	*	-	1	7	+	195		+	/ ·	٧/	<u>"</u>	4	44		1	19	- 1		•	
10 10 10 10 10 10 10 10 10 10 10 10 10 1	o'd n	-	1	4	1		*	+	4	- [+	*	•	3	4	7		1	4				
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	54	7	×	4		×//	-,,	+	4	T	``.	7/	河水	*	14		1		9	_[7	
100 10 10 10 10 10 10 10 10 10 10 10 10	.	•	*	4	1		•	+	+	- 1.	+	*	+	4	1	4		1	4	1	I	1	
下のでのでのではます。	7	•4	74	24	1	•	*	-	794		+	-	1	1	+	-		1	147			*	
Data collected by HT. VW. HT.	144	7 6	200		1	-	500	+	10	, 4,	+	146	14	14	14	14			1	7			
G.T. 1002 FOR THIPPCOLATE CHARGE AND BOTH	0,000	2 2	2 2 2	4	1		4		4	, 4	b	4 5	3	1	1	3	"	1					1
	ENGINEERING D			2						:	Š	2						2	COQUE	3			

EX	•	•								•			1				100 TO. AL. L	1			411	
-	r . 1	men	10/1	2	٦.	Į,	R VAON	1	1	Min	2	7	073		CONTRACT	9	7	Nobs	x 1	13	00	
77	k			•		ā	PE	TURE		25.	•				VOLTAGE	4	100	7	VDC.			
11 September 1953	5.36	Clock Trev		7 - 1	1592	12 Det	0 0	finished		1853		Clock	**	7-	167	0	2	Total E	Hours	7	00	. ,
							i is		TESTS	BEFORE	H	LIFE	TEST			-		٠				
Sample Number 1	~	7	5	9	2	L O	6	ខ្ព	11	12	13	14	15 16		17.	18 19	8	2	25	23	₹	25
1017age-21000c P	7		+		Ш						$\parallel \parallel$		1		+		-	Щ	Ш			P
	1	+	+	+	_				1	+	+	1	+	+	+	+	+	1				3
Sount K. May to Floor		+		#							\parallel	+	+	-	-	-	-		_			
190. In 45d- 1000 4.90	57.7	970.959	29.882	2.963	3.762	760	.950	346	.853	970	228	951.9	958 9	980 15	8 259	36. 96	5.75	1.977	18.	136	185	970
1	+	7		+	-		,	6	1	+	1	00	10	+,	-	-	3	,,	100	.42	25	3.5
Tower treke-	3	136	1,	5	3	3/16	35	5	2	2	2	8	37.1.7	+	37.17	7	-					1
	+	+	+	+		1	1		1	1	1	1	+	+	+	+	+	1				
	+	-	+	+	1				T	+	1	-	+	+-	-	1	ļ.	L				i
	+	-	-	-								† -	-	+-		-						,
		-	-						1							-	-		`			
LIFE TEST FAILURES IN HRS. 78	7	83	# m		000	 .0.		_	3		67	00	79	+	<u>-</u>			S. K.		ā	_	. "
		\parallel	\parallel	\parallel			1	1	3454		1	-		+	-	-	-					
Sample Number 1	255	7	7	9	16	94	0	ě	311	417	1 10		15. 46		17 .18	19	8	23	22	23.	70	8
× 1/2	-	-			10	,		44 4	N.4	135	Ť	1	₩.	١,	Π	10	++-		1	41	4,	1
The state of the s	4	4.	a A		4	10	You	dh	2	7	19	300	m	14	10	1-	*-	10		4/	50	
Comity wild wash	17	1	1	1967	7.1	1	956	3	•	979.	000	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	37	9. 0	158	. 976	6.982	5/	342	4	4	12
· A	1	3	0	54	5.	24 24		11	74		4		19	24	13	74	+	4		11	04	
Bwer tater %	¥	 0 %	4/	36	12	4/	42	10	-11	35	30	-	4 04	7.	3	1	0 .43	*	, 32	**		e,
**	1 1	1		a	4	uda		13	17	4	**	4	1	+	/Þ	04	+	· •	\rfloor	1	• • •	
, ,		70	100	1	1	11.	Ť	, 3	*	7	7	17.	1/2	13	_	1,	+		I	8		
1	北北	10.	4		100	1	f			1		1	1	,	0		1				1	7
20	94	4		104	1:	10/		0/1	1		40	***	•	40	1	101	L	40		*	7	10
14.	7.50	27	1	0.0	5	10		17	25	7	10	XXX	7	Ľ	2/	ZP.	Ц	#		9	10	
16	P.S.K	19	W	9	50 4	25		53	74	~	7	538	6 3	8	4	25	Ц	2		8	68	
Pose 19					1			- :	4		11001	104		17	1/1	N.						1
AND DESCRIPTION OF THE			100		/		CARCIN SELE		200	9711-111-111-11	STATE OF THE PARTY OF	Contract of the last	- CALLED TO SERVICE STATE OF THE PARTY OF TH			- Car 20 May 20	1. 1. Sept. 1.			No. of Street, or other Persons and Street, o		No.

SPECIFICATION E	FXPOT	4 1	ent.	2/2	1		7	POR WH	NOE!	1	1/4	110	244	ì	8	CONTRACT	CT NO.	1	Nobs	1	1 52	20	0 0
HOURS ON TEST	72 +						H	14	PERATURE	٠	8	2				VOLTAGE	25	77	00	100		,	
Date started	2,01		Clock frav	<i>ر</i> ه	,	1161	4	Date 1	se finished	per y	19:	953	Clock	A A A	0	179	2		Total		Hours	76	· *
1	X.				-		1	ELECTRICAL	ICAL	TESTS			LIFE	TEST									
Sample Number	1 , 2	~	#	5	41.4	2	80	6	2	11	12	13	17	15	91	17	18	19	8	21	22	23	25 42
10/tage - 2-10W	Ú,			1		S.	v													\parallel	#	#	1
7.4				-	12					,				,				1	+		+	+	
Chunt R. Mega chiwa	W X		1	YIM	201	Lask	V	\parallel	\prod									1	+		+	+	18X
0 1/	+		1	1	_	_	- 5	-	1	000	_	0 1 2	0		600		`	100	+	1000	000	000	150
Doundid-1000 B	405.1934	818	742	3	344	11/4	27.	05%	116	727	112		152	100	101	6.7.	1	100	10	1		1_	-
10 7	77	13	7	3	1	4.3	10	7.4.5	3.9	7.7	44.	46.	00	.47	84.	72	44.	.42	16	1.90	15.	98.	39 .39
0	77	+	-	1	4/	-	1	-	1										1 1			-	
	-		-	-	W.	181																+	-
	-	-	-		101													-				+	1
			_	_	10											-			1	1	+	-	30
	-				100	60																	
LIFE TEST		,_										-								١,		P	-
PAILURES IN HRS.	_		£ .	7	_			E SA			-	2					3		-	2	\dashv	7	,
			1				M	ELECTRI CAL	-	TESTS	1	PTER L	1 171	TEST							-		
Sample Number	1 2	~	10	E 48 85	9	7	80	6	9	11	:126	g)	71	15	91	17	28 €	19	82	21 6	65	23 24	52
Shunt R. Mega- 8 HIGGK100X	ONKIOON	HOOK		70		1001	100K	24	100K	100K	٠ س	t of	/aoK	100K	100K	look	1-	100K	100K	4 :	16	100/	41 X
	-1		7	2				4 7			30	00					V		0	1 4	04	-4	41
Cap. 17 464-1000% 919,929	919,92	1.612	181	+2		.938	.893	0	.918	141	10	7	14	88	016.	356	24	909.	.965	14	10	6	436 3
			10	4				4	7		514	W					4	-	15	v ;	4	74	14
Power Fector - %	.40 .50	.32	30.	-		32	15	٦	.48	3%	1	4/4	48	13,5	36	46	10	39	49 5	-	1	5.32	PH
			-7	3.7				00			4	210				1	7	1	-	38	u qu	• •	4
	,	. :			77			9			10	/-					2	1	7/4	4	5	.,	5
			1	17.00				m	,		::4	4			7		4		.A /	8		1	3/
			3/	6				2			20	03					-4		7	7	-	+	9
		4	5	4				**			-	***					1	1		5	19		1
	+			4		1					7	4			T		200	1	100	4	4		140
			44	W	-			8			S'a	25 W			1		54		4	29	215	5	4
Page 20				1							Data collecte	0110	-	4	1	1	ż		All Sections				1
																	-			ALC: NO.	The second second		

								117	TEST	T REC	RECORD				1						+	
25 units 1.0 4/6	1.2	2X.25		18.5	5 MIL	7/	Mal	lor	Car	Capacitor	tors			!			2	10	10	10651	1	19
SPECIFICATION	Expor	I	Chl	10			MOR	MAN	•	. Win	14 70	7		٥	CONTRACT	64 80		106	,	5720	00	
HOURS ON TEST	72	1		/	•		TEM	PERATUR	IRG	3	0,0				VOLTAGE	20	23	00	100			
Sentember	19372		Clock fre	Clock #//-	74.65	1	Date Se	ofember 6	ffnished fem ke		953	86	Clock	//	51	89		Total		Hours	1	72
1	-						ELEC	CTRICAL	1	13	BEFORE	LIFE	TEST						,			
Sample Number	1 2	2	4	5	9	2	80	1 1/6	्र	6	12 13	1, 14	15	91	3	18	19	2	22	22	23	굯
Valtage-13000C	a	11	¥			1	0	De		14.0	V	Ш	N P	24	5/1 Q/	0	4		0			^
1		257	_				101	05	ita	1	H	\vdash		777	1-0			200			+	
Shint P. Mega- 76 F	Tre FINCK L	X00 000	¥		\parallel	A	700	10/01	POK P		100K	#	X00/*	10/2	440	1004	1001	74	KOK		1	X100K
1 / / / / / / / / / / / / / / / / / / /	7	3 12	600	750	3	600	00	256	1	26.7	7. 984	477	3	4.0	547	922	952	100	1.002	404	168	966.93
1000 F HED - 1000 L	7777	ley	-1-	9976	_	$\overline{}$	101	10				1-		10	0.0	-1 1		104	1 . 1			↤
Ewer Fater - %	76.	18: 37	35.	.42	44	4.2	11.	7. 40	7	530.53	84 8	54.	5	311	19/	.37	.72	4	Jo.	. 47	14	.40 .42
	ra	24	\vdash	\rightarrow			2/	49	10	40		4		704	0			24	1	+	+	+
	//*	6,78				+	10	40	19	9	+	+	-	24	100		-	100	1	1	+	+
	714	4	+			+	100	MO	100	-11-	+	+	-	110	140			9 40	\dagger	+	+	+
1	**	104	+			+	436	P 4 5	400	000	+	+	1	100	40	I		100	Ť	+	+	+
	A	res	4			+	4	74	4	=	+	4	1		9		I	9	1	1	+	t
LIPE TEST FAILURES IN HRS.		Voltage	9	600			ore 9	+ 1°		ol hade		ρ,	~	oroge	oltag	m		olrege			3	2
							RIEC	OT RI CAL	L TE	_	APTER	117	TEST									
Sample Number	1	2 3	70	2	9	2	8	0	11	\vdash	12 13	7	15	16	17	385	19	8	21	25	23	52
Swatt Mass. & F	YOOK	100K	11		100K	100K 14	100K	4 -	7/4	141	40K 100K	07	4			6.4	LOOK	1	100K	100K	100 K	X 100 K
,		-	10	**		+	+	- 1	,	+	\rightarrow		11	1		14		1	_	_	24	100
april 414 . 1000 /5 .949	.949	976	24-	445	985	804.9	.9/3	4	44	.98	4 979	1 4.	10			24.	196.	,	1.00	910.	800	
B. tr. %	85.	4	94	4	5	35	96	414	-po	1,0	54 .60	346	5/1	L		4 4	.46		35	.44	46 1	53
			1	124	1	1	H		0/8	H	H	/].	141	Ц	Ц	01					54/	10
	1	+	2	7/0	1	+	+		P	+	+	3	24	\perp		1		1	+	\dagger	P	40
		÷	7//4	541	\dagger	+	+		w .	+	+	///4	402 1/03	\perp		7		T	\dagger	\dagger	94	40
		+	14	12			\vdash	14	900	\vdash	\vdash	1	5			1		П		Н	+	9.
		-	9/4				\vdash	74	D		H	*	37			•				Н	9	274
		-	8	2				W	25	H		25	50			14					갶	49
7000 21								Sept.		Date	1000	ected	10	#	K	1					•	
	A. 1. Ster. 1. 7.	*															I				l	

	.	-				25	1	400	.890		.34		0	1		*			17.		25	NOOI		168.	33	1		-1-	4	1	1	i	1	
	120			79		7			929.		42		D	35	4						72	10x		, 135	3%		-							
F		200				to		1	ey h	2	16	1	1	04	14		0	W	10/40 de		23							7	1.0					2
	16651	57		Hours		22		Y Y	4		.4.		U				,		=	8	22.0	0		19	410		12	<i>/:</i>	3	-4	2	80		3
	7	1	000	Total H		ંડ		1	1	20	. 3	10	To Vio	10	7	9.	00	W .	COLTON		2								10		1	-		COOK
	LOT NO.	106	1	2		2		1	1	0	.24	7/4	otal	1	4	64	0	W	voltage		ୡ				1									
	3	NO.	200			2	16	200	230	2	.35		0								19	100K		.988	3.5						-			
			20	198	1	ρ . Ψ.	124	9	100	10	21	0/:	(1)	1	7	10	47	67. W	1014098		18										1.		K	
1		CONTRACT	VOLTAGE	1		200	1	401	2	100	06/	7/	10-	r Cu	00	7 -		107	209		17												1	
1	. !	8		Ò		94		NOON	600		.33		Q						λ ⁱ	0	1	13.5 th	10	50	247	12	ti		0	*	3	200	A	
	210			Clock #	TEST	3.		.00	5 4	21	01:	1	7	9	4		90	n	404 tok	TEST	15												2	
	cit			gf	LIFE	4.		100K	630	2	.39		C							1173	7,	100%		1980	0								oted	
9	00	10+4	500	١.	BEFORE		1		100	000	30									FTER L	13	100K		903	2.7								0110	
RECORD	00	ling	55	,	1	1	:		600	1	3.5									=	15	100 K		.959	3								Date o	
TEST	1	Vh		8	TESTS	=	:		000	2	44.								33	TESTS	111	100		12	101			*	345	70	. 1	44	A	
1176	14/9	75	ATUR	finished	RICAL	3	3		0	9	17			1						3	10	100K		696	5	9								
-	N	- 4			ELECTRICAL	•			21.9	-	3									LECTRICAL	6	100K		913	1							A STATE		
•		FOR	1	-	77		۰	100	3	0,01.	.3%	-	2		,				. 0	-	80	180K		417	77.									
٠٠٠	216			881				0	-	14	2/	07	07	44	4	0)	90	40	1014098		7									1.40	9			
	5			- 17		7	•	look	0.00	100	1.5		0						8.5		197	1-1	3	14	73	10	0	10,	10	· ·	10	30		
	X	10		0		u			_	216	140								5		54	-	0 A		al.	0.	1	2/1	0	100	10	25		
	١,	mento		Clock		-	•		10	200	50	_									3	1001	,	907	0		L						1	
	25	·u		1	1 .	-	\neg			414	3										~	1001		928	2	3								
	XX	ΙV	101	4	753	ç	•			.760	1			_					00		1 425	4.	م اء د	\rightarrow	34	4	, 	7/	•		01	3.5		
		EX		1			•	TOR	_	124	3.5		C/	-					_		7	11 3		959	-+-	SS		L		5				1000
	040	10	TEST	Pe	eplember		- 11	7116	5	1000 6	1		2000						LIFE TEST FAILURES IN HRS.		10	Shuth Much 776		3 000/	0	0				14	٧.	1	22	
		CATI	T NO	tert	10		Num De r	Met		9-10	+		7					1	SIN		Number	Mason		11.11	7	20/0	-	-	-			1	2,182	
	- UNITS	SPECIFICATION	HOURS ON	Date started	0	1	Semble	74		17.4	F		1.1	1				-	LIFE TEST	1	Sample	10		194. 1946d	0	0110		-	1				Pose	-
	5	3	×	-	8		5	24.	1	0	6		111			1			34	1	S	3	-	90	P	lon	-							

Sumple Number 1 2 3 4 5 6 7 2 6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2								LIFE	I TEST		RECORD				١			,		4		H	
	WITS 1. 4/4		25-	X /	,	N	7,	1	1	1	00	3	1	!			-	5	٦	90	15	13	1
The part of the	SPECIFICATION	١ ٥.	men	tal			POR			7.	-	0		3	ONTR		1	106	3	5	20	0	
Number 1 2 3 4 5 6 2 2 2 2 2 2 2 2 2	3	73		-			T	PERAT	URG	•		U			VOLT	10		0	7	2000			1
Fame	1		Cloc		1	00		ari e	1 shed			1	lock	`	1	1640	_	ع		fours		·	
### ### ### ### ### ### #### #### ######	ceptemb	1	311	-		4	~	360	S S	20	7	3						1				1	
							KILE	craic			EFOR				4								1
19 19 19 19 19 19 19 19		8	-	5	9	3	a	-	1 01	_	-	1			17	18	-	_	\rightarrow	22	_	1 ×	3
	14.00		╫		Q	50	. 114	100	u	4	₩	\parallel				1	1	1	1		J	**	4
## 1	10000-0001		-	+	1	10,	200	7	1'2	+	+	+-	-	-		-	_		_	L		25	20
41/1 (400) 471 (374 943 377 371 372 371 371 371 371 371 371 371 371 371 371	to w		+	\prod	144		Y	+	4	¥4	+	H	\prod	1	1	\parallel	\prod	\prod			1001	500	4/
TEST 18 HIS. 9 10. 3.0. 3.0. 3.0. 3.0. 3.0. 3.0. 3.0. 3	136	100×		-	18		E,	+	+-	_	+	-	:	_		-	_			_		3. 51	00
## ## ## ## ## ## ## ## ## ## ## ## ##	5	200	+'	+-	9.8.5	10	24.	38	+	-	+-	9.	4	9.99		3.999	+	_	3	_	949.	2	18.
### ### ### ### ### ### ### ### ### ##	10001	1	1-	+	3	13	3	30.	2/	-	+	1_	1			_	-			-		50	100
TEST HIRS. 7 20 10 10 10 10 10 10 10 10 10	E. t.	1,0	+	+	3	17	0-1	22	1		 	-		-	2	3	<u>بن</u>	is		.43	7	7	10
FEST HES.	10000	3 -	+	+	1	104	aw.	- 6	14		+	1	-	+-	1	-	1	L				W	10
## ## ## ## ## ## ## ## ## ## ## ## ##				-		10	4	2/	4	-	-	-					1					30	14
The color		+	-	-		19	4.4	18	.0	-	-	-	-	-			_	_				444	
FEST 12 2 3 14 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 19 19 19 19 19 19 19 1		+	+	-		10	10	19	4.	+	-	-	-	ļ.	ļ -							100	0 P
Number			_	_		400	10-	136	25	-	-	_			_	_	1					E 6 5	3
USS IN HIRS. 9 *** The Hirs. 15				-		,,	1,0	140	+	-			-	_					-			No1	vol
Number	RES IN	5	d	0		اکتر	1toge		299	_							7	1,				oge.	109
Mey a. 77 2 2 3 4 5 6 7 8 9 10 211 12 13 14 15 16 17 18 7195 20 212 22 23 24 17 25 25 25 25 25 25 25 2		-					1	CFRIC	1	13	FTER	117							1				
Meg a. 77 7 3 4 100K 100K		1			9	2	Н	П		H	\vdash	П	H	\vdash	17		₹19		2	22	23	굯	2
Toter 100 0 37 39 2 2 32 33 44 844.843.942.842.842.842.90.969 Toter 100 0 37 39 2 2 45.52 52 53 50 35 48 47 47 57 62 49 69 69 69 69 69 69 69 69 69 69 69 69 69	/New 2. 77	100%		1	-		//	X	-J a	16	$\overline{}$		X 1001	1001		4100	-1	$\overline{}$	4	_	100K		
Total 1000 St. 1 5 949 950 959 944 1878 1972 847 998 1973 998 1979 898 1979			41	-	$\overline{}$	<		\forall	-9	100	_	-	_	4	-		59		5	-			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1. 100 B	656	40				-	444	1.			13.97	-		8	+	_	6.	4				
Ser Foster 26 6 6 37 39 2 8 45 .52 .53 2 35 .48 .47 47 .37 85.4 40 0 8 19 19 19 19 19 19 19 19 19 19 19 19 19		4							_	-	+	+	+	4	1	1	-		1	_	1		-
Marian Ma	er Foctor - %	10.	6	$\overline{}$			-	53	<i>‡</i> 7	"	-+	+	3	\neg	7		_	•	>4	_	.34	I	
2 2 W 100 100 100 100 100 100 100 100 100 1	•		V	04	-		+	+	2	1	+	+	+	\downarrow	1	1	7	1	ď		1		
A State Collected by HT. W. HT.			2	1 2			+	+	*	"	+	+	+	4	+	\downarrow	2	0.34	4	1			
10 10 10 10 10 10 10 10 10 10 10 10 10 1			-/	,			+	+	4	41	+	+	1	+	-	1	107		2				
23 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		. 40	•	- 200	1		†	\dagger	7	40	+	+	+	1	1	1	*	1	200				
23 850 850 850 850 850 850 850 850 850 850		140	40	1	1	ľ	+	\dagger	7	4	+	+	+		1	1	1		*				
23 Eb K W HT. VW HT.		70	1	200	1		†	+	7	200	+	+	-				36		Th				
2.3		42	4	8	-		1	-	7	-		-	1	1	F	1	3	7	1	1.			1
											1		1	1	,	1							1

######################################		- 22	× ×						4	1	121	LIFE TEST RECORD	8								-		1	
The well following the control of th	1 1	. '	2 1	25		X	7	711		2	410	1	4	200	12	7;			3	ė		250	1	22
The property 1 2 3 4 5 6 7 8 9 10 11 12 13 13 14 7 7 7 7 7 7 7 7 7	SPECIFICATION	The	412	69	tal			K		*	1	N	974	T	1-	8	PERAC		- 1	265	. 1	172	8	7
	HOURS ON TEST	72	ž				٠.	F	MPER	TOR		Z	U				T.T.	.]	4	0				1
THE	Date started	4	,	Clock	-	1	3	Γ:	3 C	aid de 1	. ¬	. ,	100		*	8		407		Tota	Hou			
at 1 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 15 17 18 13 18 18 18 18 18 18 18 18 18 18 18 18 18	1 3 de 10 10 10 10 10 10 10 10 10 10 10 10 10		7.	,			1	1 -	BCTR	-	9 8	H		2	183				1					1
17 15 The parallement of the state of the st		-		#	5	9	2	100	6	ន	:	12		77		16	17		199	\vdash	2	-		-/
Fig.	Me	180KX	-																101	2000		H	H	*
	1			_			L							- 4						-		1	+	
Fact	1-1000	907	-	_		+-	-	_	316	160		.906	86.	₩	853	930							-	
			-	_										0 /				Y	34	+	+	1	4	+
For Figure	Jug. Tate. 10		+-		.,		-	38	.33	.43	.45	6%	55	' '	44	36	10	m		33	32	-	-	40
F. T.				-									_	- T	1	1	1	\neg	0	1	+	+	+	+
THE TEST STATES IN HIS. STATES IN HIS. STATES AND STATES IN THE STATE	1	¥		-	\parallel	\parallel	\coprod	\prod			\prod		_		7		A		1	2	\dagger	#	+	1
	,	+	+	+	'		1	1			I				1	T	1	T	4	\dagger	+	+	+	+
The Test 1 2 1 5 6 7 8 9 9 9 9 9 9 9 9 9		+	+	_											1	†	1	1	71	+	\dagger	+	+	+
### TEST #### ILLUMES 19 HINS. ###################################			-	+											1	1	-	1	1	+	†	+	+	+
### TEST LUMES 13 HRS. .		-	-	-	1	1							1		†	1	1	1		\dagger	+	+	+	+
			,	-										05			1		7	1	-	+	+	+
ELECTRICAL TESTS AFTER 1178 TESTS ELECTRICAL TESTS AFTER 1178 TEST A TAIL TO THE TEST ATTER 1178 TEST ATTER	LIFE TEST FAILURES IN HRS.						٠		. &	&				101 109°		Ce.		10	١٢٠١.	7	*			-
1 2 3 4 5 6 5 7; 8 99 5 400; 11 12 13 14 15 165 17 18 19 20 21 6 22 23 24 1 4 1 4 15 1 1 2 3 4 5 6 5 7; 8 99 5 400; 11 12 13 14 15 165 17 18 19 20 21 6 22 23 24 1 4 1 4 1 2 3 4 2 5 6 7; 12 9 6 7 7 7 0 9 2 7 7 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2									ECTR		TEST	11	1										\	
11 11 11 11 11 11 11 11 11 11 11 11 11		-	3	7	5	9	24		4	400	11	12		Н		5	ГΤ	8				-	\vdash	Н
2. (m. 7. 2) 2. 3.2 4.7 3.9 4.2 3.8 4.3 3.0 3.8 4.1 3.9 4.1 3.9 4.1 3.9 4.1 3.9 4.1 3.9 4.1 3.9 4.2 3.8 3.1 3.9 4.1 3.9 4.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3	, Th	¥		4		X00/	ノーノ		610	1	100K	100K	100K		-	101	YOU,	YOOK.	, 1	20K 1		70	+	110
1. [m] 1.			-				4		4	M					\rightarrow	7					Т	\dashv	+	-
20 96 24 20 96 24 20 96 24 20 96 24 20 96 24 20 96 24 20 96 24 20 96 24 20 96 24	1.100	$\overline{}$		-	\rightarrow	\rightarrow	11	$\overline{}$	+	10	36	.912	.936	-	-	9	9	1/16	+	''	1			_
29 9 24 29 9 24 29 9 24 29 9 24 29 9 24 29 9 24 29 9 24 29 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		+	-	+	\downarrow	+	_		110	40		0.	1	+	-	. 3	1	1	+		0 3	+	+	+
The rate of local and the loca	- Con	+	-	+	8	+	_		96	10	5	10.			+	4	3	:	+	1	101	+	4	1
THE THE CALL TOOL MADE WITHOUT CONTOUNTS		$\frac{1}{1}$	+	+	1	1	1/.		4				F	T	ŕ	4	T	T	\dagger	-	14	\vdash	-	\vdash
THE THE C.L1002 SOME MUTHOUSENING CONCRETED		-	-	-			4		10	1/2										//		H		Н
THE THE C.L. 1002 SOME SHIPPECHANE CONCONCION			-	-			,			* 2						10				3	40	+	-	- (
THE THE C.L1002 SOME DESCRIPTION CONTRACTION NO. 117			H				*		10	? /s						4		7		1	4	+	+	4
THE THE C.L. 1002 SOME DESIGNATION CONTOUNTS							C >/			27				1		7	1	1	7	77	04	+	+	+
This may, c.l1002 gots margaculars correspondent							N.		44	25				7		7	7	7	7	4	ş	+	-	4
TOTAL TAPE. C.L1002 SOME DELICEMENTS CONCOM	Page 24										4		•	3		A		3	F					1
	ENG! HER PUB	-		5	•			-					S. Charles	5. 7. 7.					>	2000	100			A 2 6500

Į.	g				1					300					-		1		10 to 400	- Production	4			2	1		-					
1	Number Open After Life	1																-														
	fter	0	0	0	o	0	C	-	0	0	0	0	-	0	0	-	-	7	-	-	~	-	-	~	ش	٦,	0	7	0	0	-	
-	J V			1																									`			
													+							*						•						
1	Pre- gauged Material	e s	Yes	Yes	Yes	es	es	es	e s	e S	es	Yes	e s	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	S	Sa		Yes	8	,
1	Mat	+	>	>	>	> -	¥	>	×	>	>	>	Ye	>	>	>-	>-	>	>	>	>	> -	> -	>	>	>	Ye	>	>	×	>	
	c										*1																					
-	Margin	/4"	4.	4	4	4	.4	4	4.	4.	4.	4.	4-	4-	4	4	<u>*</u>	4.	4	4	.4	.4	4	4	4.	4	/4"	/4"	4	4	4	, ,
			_		_	_	_	_			1	_	T	_	_	_	_	_		_	_	_		_	_	_	_	_	_	_	_	,
	rial	-									1	/															~	۳	ش	~	3	
	Lot Material	#5	#2	#5	#5	#5	12	7	#2	#5	#2	#5	#2	# 5	#5	#5	#5	#5	#5	#5	#5	#5	#5	#5	#5	#5	#2 &	75 B		12 &	15 &	
																												-		*	*	•
	Mylar ailures	1.5%	۰	۰	16%	ح	%	2%	8%	%	%	88	8%	%	2%	80	%		3%	88	5%	3%	4%	. •		80	3%	5 °	80	5°		
	Mylar Failure	4	9	129	4.	129	60	10		25 9	159	25 9		26 9	18	30 9	19	20 %		662	45.	33.			57 %	9.99	33.3%	29.	29.	21 9	8 9	
	. 2	¥																														
	Mylar Failures	_	0	~	_	~	0	7	~	S	~	5	÷	9	4	9	4	4	∞	6	0	∞	∞	6	7	9	7	Ś	'n	4	4	
	E E																			_						_						-
	. s																				-	~										
	lechanica Failures	1)	_		· _	•				-																					
- 1		0	0	0	0	0	$\overline{}$	4	2	\sim	~	_	\sim	0	_	2	_	2	0	0	0	0	0	0	0	0	~	0	_	_	0	
	dech Fail	0	0	0	0	0	1	4	7	3	3	_	3	0	-	7	-	7	0.	0	0	0	0	0	0	0		0	-	-	0	•
	Σ.	0	0	0		0	1	4	2		•	1	3	0	-	2	-	7	Ο.		0	0	0	0	0	•	. ~	0	-	-	0	•
		22 . 0	20 . 02	25 0	24 . 0	25 0	24 1	24 4	21. 2	23 3	23 3	21 ' 12	23 3	23 . 0	23	23 2	23 1	24 2	25 0	25 0	25 0	25 0	23 0	24 0	24 0	25 . 0	24 3	19 0	18	20 1	23 . 0	
	Started Mech on Fail	22 . 0	20 . 0	25 0	24 . 0	25 0	24	74	21. 2	. 23 3	23 3	21 1	23 3	23 . 0	23	2 53 2	23 1	24 2	25 0	25 0	25 0	25 0	23 0	24 0	24 0	25 . 0	24 3	19 0	18	20	23 . 0	
	Started on Life	. 22 . 0	20 0	25 0	24 . 0	25 0	. 24 1	24	21. 2	. 23	23 3	21 1	23 3	23 . 0	23 1	23 2	7 . 23 1	24 2	25 0	25 0	. 25 0	25 0	23 0	24 0	24 0	25 0	24 3	19 0	18		. 23 . 0	
	Started on Life	3 . 22 . 0	5 20 0	0 25 0	1 24 . 0	• 0 25 0	1 24 1	1 24 4	4 21. 2	2 23 3	2 23 3	4 21 1	2 23 3	2 23 . 0	.2 23 1	2 23 2	. 2 · ₹	1 24 2	0 25 0	0 25 0	0 . 25 0	0 25 0	2 2 23 0	1 24 0	1 24 . 0	0 25 0	1 24 3	6 19 0	7 18 1		2 . 23 . 0	
	Failed Started Before on Life Life	3 . 22 . 0	5 2 20 0	0 25 0	1 24 0	. • 0 25 0	1 24 1	1 24 4	4 21. 2	2 . 23 3	2 23 3	4 21 1	2 23 3	2 23 0	.2 23 1	2 . 23 . 2	1 23 1	1 24 2	0 25 0	0 25 0	0 . 25 0	0 25 0	2 23 0	1 24 0	1 24 0	0 25 0	1 24 3	. 6 19 0	7 18 1		2 . 23 . 0	
	Failed Started Before on Life Life	25 3 22 0	.25 5 20 0	25 0 25 0	25 1 24 0	25 • 0 25 0	25 1 24 1	25 1 24 4	25 4 21. 2	25 2 23 3	25 2 23 3	25 4 21 1	25 2 23 3	25 2 23 0	25 .2 23 1	25 2 23 2	25 . 23 . 1	25 1 24 2	25 0 25 0	25 0 25 0	25 0 25 0	25 0 25 0	25 2 23 0	25 1 24 0	25 1 24 0	25 0 25 0	25 1 24 3	25 . 6 . 19 . 0	25 7 18 1		25 2 23 0	
	r Failed Started Before on Life Life	25 3 22 0	5 20 0	25 0 25 0	25 1 24 0	25 . • 0 25 0	25 1 24 1	25 1 24 4	25 4 21. 2	25 2 23 3	25 2 23 3	25 4 21 1		25 2 23 0	25 .2 23 1	25 2 23 2	25 . 23 . 1	25 1 24 2	. 25 0 25 0	25 0 25 0	. 25 0 . 25 0	25 0 25 0	25 2 23 0	25 1 24 0	25 1 24 0	25 0 25 0	25 1 24 3	25 . 6 . 19 . 0	25 7 18 1		•25 2 23 0	
	Number Failed Started of Before on Units Life Life	C 5	C	C 5	2	C 25 • 0 25 0		C === 25 1 24 4	C 25 4 21. 2	C 25 2 4.23 3	C 25 2 23 3	C 25 4 21 1 1	2	2	2	2	2	C 25 1 24 2	C 25 0 25 0	0 25 0 25 0	C 25 0 25 0		C . 25 . 2 . 23 0	C 25 1 24 0	2	C 25 0 25 0	٠. ن		25 7 1	C 25 5: 2	G +25 2	
	Failed Started Before on Life Life	C 5	5°C ::2	C 5	2 2			85°C - 25 1 24 4	85°C 25 4 21. 2	85°C 25 2 23 3	85°C 25 2 23 3	85°C 25 . 4 . 21 ' 1	2	2	2	2	2	85°C 25 1 24 2	85°C 25 0 25 0	85°C 25 0 25 0	85° C 25 . 0 25 . 0		85°C . 25 . 23 0	85°C 25 1 24 0	2	85°C 25 0 25 0	٠. ن		25 7 1	25 5 2	G +25 2	
	Number Failed Started Temp, of Before on Units Life Life	5°C 2	. 85°C2	5°C 2	. 85°C 2	850	850	C. 85°C = 25 1 24 4	C. 85° C 25 4 21. 2	C. 85°C 25 2 . 23 3	C. 85° C 25 2 23 3	C, 85°C 25 . 4 . 21 ! 1	2	. 85°C 2	2	2	2	C. 85°C 25 1 24 2	C. 85°C 25 0 25 0	C. 85°C 25 0 25 0	С.	C. 85°C . 2			. 85°C		C. 85°C' 2	C. 85°C 2	C. 85°C 25 7 1	C. 85°C 25 ° 5° 2	85°C •25 2	
	Number Failed Started Temp, of Before on Units Life Life	D.C. 85°C 2	D.C. 85°C ::2	D.C. 85°C. 2	D.C. 85°C 2	D.C. 850	D.C. 85°	p.c. 850	D.C. 850	D.C. 85º	D.C. 850	D.C.	D.C. 85°C 2	D.C.	D.C.	D.C.	o.	D.C. 85°C 2	ρ⁄c.	D.C.	D.C. 85°C 2	D.C.	D.C. 85°C' 2	D.C. 85°C 2	D.C. 85°C 25 7 1	D.C. 85°C 25 5 5· 2	D.C. 85°C •25 2					
	Number Failed Started of Before on Units Life Life	.C. 85°C. 2	D.C. 85°C ::2	. 85°C 2	. 85°C 2	850	850	1600 D.C. 850 C -25 1 24 4	D.C. 850	1800 D.C. 85°C 25 2 23 3	D.C. 85°	2000 D.C. 85°C 25 4 21'	D.C. 85°C 2	D.C. 85°C 2	D.C. 85°C 2	D.C. 85°C 2	2	D.C.	D.C.	D.C.	o.	D.C. 85°C 2	Ų.	D.C	D.C. 85°C 2	D.C.	C. 85°C' 2	D.C. 85°C 2	D.C. 85°C 25 7 1	D.C. 85°C 25 5 5· 2	D.C. 85°C •25 2	
	Number Failed Started of Before on Units Life	D.C. 85°C 2	D.C. 85°C ::2	D.C. 85°C. 2	D.C. 85°C 2	D.C. 850	D.C. 85°	p.c. 850	D.C. 850	D.C. 85º	D.C. 850	D.C.	D.C. 85°C 2	D.C.	D.C.	D.C.	o.	D.C. 85°C 2	ρ⁄c.	D.C.	D.C. 85°C 2	D.C.	D.C. 85°C' 2	D.C. 85°C 2	D.C. 85°C 25 7 1	D.C. 85°C 25 5 5· 2	D.C. 85°C •25 2					
	Number Failed Started Temp, of Before on Units Life Life	D.C. 85°C 2	D.C. 85°C ::2	D.C. 85°C. 2	D.C. 85°C 2	D.C. 850	D.C. 85°	p.c. 850	D.C. 850	D.C. 85º	D.C. 850	D.C.	D.C. 85°C 2	D.C. 85°C 2	D.C. 85°C 2	D.C. 85°C 2	2200 D.C. 85°C 2	D.C.	D.C.	D.C.	o.	D.C. 85°C 2	ρ⁄c.	D.C.	D.C. 85°C 2	D.C.	D.C. 85°C' 2	D.C. 85°C 2	D.C. 85°C 25 7 1	2100 D.C. 85°C 25 ° 5° 2	2200 D.C. 85°C •25 2	

Sunts at all 5 first 2 to 10 t		1								3	1178 21	1227	RECORD	A				2				-	200			
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 17 17 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	25 units . 25 w/o	15-51	20		13	77.	1	707	6/1/2	200	1	Mel.	4	00	200	BB3**	i			100 P. S. S.	20 10	1/	205	BEGINNEY IN	12	9
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 17 16 19 20 10 10 10 10 10 10 10	SPECIFICATION		•						5	NEW 2		1	1/10	101	1	1	0	NTER		1	106	35	5	20	0	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 30 21 22 23 24 10 10 10 10 10 10 10 10 10 10 10 10 10	BOURS ON TEST	5	0						P	PER	TURE		5	0				7OLTA	10	0	0	10	61			
1 2 3 14 5 6 7 6 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 100	1			54	A P	- /	35		4	200	dela S	3	953	<i>!</i> .	gf	ck v		W,	195		2	tel B	lours	4	86	
1 2 3 4 5 6 7 8 9 10 11 12 11 14 15 16 17 16 19 20 21 22 21 20 10 10 10 10 10 10 10 10 10 10 10 10 10	1)	+						H	CTRI	3	TESTS	BEF	MO	LIFE	TEST			±. /							
1 2 3 L 5 6 7 8 9 10 11 12 13 14 15 16 37 12 12 12 12 12 12 12 12 12 12 12 12 12	Sample Number	-		-	=	5	9	2	₩	6	2	7	12		77	15	16	17	.18		8	-	22	`	72	25
12. 3. L. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 25. 25. 27. 4. 27. 12. 25. 27. 27. 17. 15. 15. 25. 25. 27. 17. 15. 17. 17. 17. 17. 17. 17. 17. 17. 17. 17	Valtage- 6000 &	1	#1+	₩	##	##								11 1												P
	Z TEN OCH		1	+3	-	- X		-	1	1	_	1001	INC		(4)	13.81	1,0	1 '	-	1		100 K	IJ,			100
THE STATE OF	the 47% V Meter		7		1				-		7-7						1 !						-		-	
THE T. N. 35 S. S. C. T. V. 34 S. V. S. C. S. C. V. S. C. S.	To the state of th	-	-		_		_								-		, ,		1				1 4	1.0	_	200
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 6 7 8 9 10 11 12 13 14 15 6 7 8 9 10 11 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	Cap in 461 122 6	251.3	64	-	_			-	262	263	764	1.	100	34	272		1		1	9	. 1		1	i	*	•
TEST MINS.	3			,		-	+ +	3.6	10	d	10/	.39	.35		7.7	. m	++	-	++	1	3	m	3	1	1 1	.32
10 Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 37 18 19 20 21 22 23 24 15 15 15 15 15 15 15 15 15 15 15 15 15	1	•								1					•	_ 1				1	- +	1				
10 Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 37 18 19 20 21 22 23 24 17 17 18 18 19 20 21 22 23 24 18 18 18 18 18 18 18 18 18 18 18 18 18			+	+	+		-			1				,	J		-				!			1		
TEST HIS. CO ELECTRICAL TESTS AFTER LIFE TEST CO CO CO CO CO CO CO C		•	-	1	-	+			1	1						:		1	1	1	1	·	-			
1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 37 18 19 20 21 22 23 24 1 1 1 1 1 1 1 1 1		-	+		+		.	1	1	-#											Į.	į	-			
	FAILURES IN HRS.			500					·	/								'As			4340	1				
16 Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 27 18 19 30 21 22 23 24 16 Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 27 18 19 30 21 22 23 24 17 V NST. 18 Number 2 1 2 2 3 4 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5		1	1	1	1	1.	1	1	EL	S E	٦١	TESTS	11	ER L	11	EST				1						
1. W. 1977 (1978) 1. 1928 (1978) 1.	Sample Number			3	-	2	9	2	80	9	9	=	12	17	7,	15	91	H	18	13	ଥ	ธ	25	23	72	25
2 1 1 1 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	1	(30K)	-	,	XXXX	1	1	1									100K	-	10.8	100K	. 4	1001	J	7		100 K
E. Fe. Trans. 35 1495 3 1495 3 2 37 37 36 42 162 261 252 277 346 165 42 162 261 259 65 269 252 269 252 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 261 262 262	1 - 1		43	•			1											4		1	240		•			
Extra 18 195 2 19 2 2 3 3 3 3 3 4 6 115 12 12 10 15 12 12 15 15 15 15 15 15 15 15 15 15 15 15 15	2	-		-	+		1		1		$\overline{}$	1	1	2110			_	34		176	019			27.0		200
Pope 26 Extra 7.31 1195 27 37 37 36 42 1.2 30 .38 96 1.15 42 .42 5 5 5 6 5 .79 Extra 100 100 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Cap. 10 414 - 12027	+		-	73.5	-	356	360	N. C.	3	$\overline{}$	X	4	· ×I	015.	146	-	dic			1			2	2	
26 26 26 26 26 26 26 26 26 26	F. Fater ?	3	_	\rightarrow	+ +		+ +	1	13	T		.30	*	96	7.75		.42	1	1-1	1	04	-	.3%	65	5.5	36
2.6 2.6 2.6 3.6 3.6 3.6 3.6 3.6		+	10	-44	+	+	+	+	+	+											6	1				
26 Date collected by HJ - VW. NORWOOD.		+	d		+	+	+	+	1	1			T				}			1	1 .				i	
26 L. 1002 TORE DEUTSCHAFF CORPORATION NORMOOD.		-	4	4	+	+	1	T													1 1					
26 Date collected by HJ - VW. NORMOND.			100	1 1	H					П															1	
26 INTERING INPT. C.I. 1002 TORE DEUTSCHAFF CORPORATION MORNOOD.			19		-	-				\exists								20							٦	1
HERRING DEPT. C. L. 1002 TORE DEUTSCHAFF CORPORATION											Ü,	A		0110	cted	4	H	H	7	7		,			1	1
	ENGINEERIN	1		-	805			6	380	50.00	CBC		RPOR	ATIO	_						2	MOOD		92		
	THE RESIDENCE OF THE PARTY OF T	A					Charles Salan		County Labour	CHEST	THE PERSON		COMPANIES.	CENTRAL		Section 2		Well-Stranger	TRANSPORT OF THE PERSONS IN	COLUMN TOWNS			COST CHALL	SALEDON.	Section of the last	COMME

NObsr M No. 26

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units

The units were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C. for one half hour. The capacitance was measured at 85 C. The units were then exposed to 600 v.d.c., pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 0 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAFSED TIME
0	6.2 mfd.	Start of Test
66	5.95 mfd.	19 hours
67	6.4 mfd.	28 hours
70	6.3 mfd.	90 hours
72	6.1 mid.	112 hours
79		118 hours
80	6.2 m/d	137 hours
80	6.1 mfd.	157 hours
80	6.1 mfd.	182 hours
82	6.1 mfd.	233 hours
83	6.25 mfd.	264 hours
83	6.25 mfd.	286 hours

NObsr M No. 26 (Continued)

Number of units started on test	25
Number finished	22
Total capacitance before life test at room temperature	6.2
Total capacitance before life test at 85 C.	6.2
Total capacitance after pre-breakdown test	6.2
Total capacitance after Life Test	6. 25
Number of permanent failures	0
Number of temporary failures	83
Number of opens at the end of the test	3

18. 15. 464 - 51096 5 MILL MOTERIAN Major			.				-	117		TEST RECORD	800				1		V						,
1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 16 5 7 6 9 10 10 11 12 13 14 15 16 15 7 8 9 10 10 11 12 13 14 15 16 15 7 8 9 10 10 11 12 13 14 15 16 15 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	16		2960			,	Me 70B	Te/	1/26	•	2	440	1	200	100		- ! `	66	1	365	12	70	~
### Glock # 2 · 338 9 Die Anima Glock # 2 · 366 9 Die Anima Di		5				i	T	PERAT	dR.		2	2			VOLT	TOT	70	0	0				
### ### ### ### ### ### ### ### ### ##	1 105	2	Clock Tre	7		`	◊	o fin	of P	3	2 0	36	Teck	••	1	699		2		ours	7	b	3
## 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 4			\					CTRIC			BEFOR		T TE	H									
\$\$\frac{4}{12}\$\frac{1}{12}\$\fr	Number	-	7	5	9	2	₩	6	-	-	-					-	-	જ	23	22	23	₹	25
The Marker for Mark Lank Work for Work — Mark 2011 358 37 6 758 349 258 340 258 349 359 349 349 349 349 349 349 349 349 349 34	togs- 7000c	++			\prod		$\dagger \dagger \dagger$	HH	! 	₩₩	₩₩	#	-	-		2	A.	2	Q.	d	Pal	Q	0
175 V. Marter 1. Confer 1/2 34 141 35 36 124 134 144 453 364 36 37 37 37 36 32 36 5 6 6 6 6 36 3 3 3 3 3 3 3 3 3 3 3 3	Meso XI FUOL				X COI	90x	00K	-+++	+	+ + +	₩	100	13		× 100	X 100			100K	1000	.40	2K	100K
R TEST	475 V. MeTEr	+	+				+	+	+	+	+	+	+	-	+	+	. 7				14	T	
F Treater 16 34 47 37 47 37 37 37 35 35 37 37 56 32 38 5 4 50 5 37 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		_	20,265	-	\rightarrow	5,63	+	2632			+			2	4	76		-	+ +	376	196	270	271
E TIST LUNES 13 HBS. RICCRICAL TESTS AFTER LIFE TISTS P. C.		_	+	+	\rightarrow	_	+		+	1,	-	-	10	1	+	+	•4/	+	10	4	2	1.18	67
F. T. S. T. S. T. S.	ce (20 Tor - 10 34	. 43	<u>`</u>	+	\rightarrow	_	-		+	,	+	+	+	+ +	++	+ +	41	+ +			41		1
DIE NUMBER IN HRS. ELECTRICAL TESTS AFTER LIFE TEST PLO NUMBER 13 TH 15 16 17 18 19 00 21 22 23 THORY CALLY TO THE TEST AFTER LIFE TEST THORY CALLY TO THE TEST AT THE TEST AFTER LIFE TEST THORY CALLY TO THE TEST AT			+						+	+	+	+		\perp	+		1 3				80		
ELECTRICAL TESTS AFTER 11FF TEST FLECTRICAL TESTS AFTER 11FF TESTS FLECTRICAL TESTS FLECTRICAL TESTS AFTER 11FF TESTS FLECTRICAL TESTS AFTER 11FF TESTS FLECTRICAL TESTS AFTER 11FF TESTS FLECTRICAL TEST			+	-			+	+	+	+	+	+	+-	-	-	-	307				לאין ניסיו		
FLECTRICAL TESTS AFTER LIFE TEST Property	2								-							:	ope"	482			per	E85	
Thypo. Y2 2 10 11 12 11 14 15 16 17 18 19 10 21 22 23 25 10 11 12 11 14 15 16 17 18 19 90 21 22 23 25 17 17 17 17 17 17 17 17 17 17 17 17 17							EE	GRE	11	SSES	APPE	•••											
135 t. Meter. Ya Elook 4. 135 t. Meter. You as a secrete	ple Number	-	7	5	9	7	Н	П	Н	=	Н	\Box	H	\vdash	\vdash			8	21	25	- 11	70	25
175 V. Meter. 18 26 26 26 26 26 26 26 26 27 26 27 26 27 26 27 26 26 27 26 26 27 26 26 27 26 26 27 27 27 27 27 27 27 27 27 27 27 27 27	P. Maga- 82 6						$\parallel \parallel$	$\parallel \parallel$	$\parallel \parallel$	₩	H	H	#	#	\mathbb{H}	¥100 K		you	DOK	You			SOOK
37 44 40 10 32 34 32 42 33 38 41 70 35 57 57 43 39 44 40 10 35 57 42 38 39 41 50 35 57 57 59 59 59 59 59 59 59 59 59 59 59 59 59	175 K		+	\sqcup			$\dagger \dagger$	+	\rightarrow				H	H	\prod		\coprod	404				14	
Foch - % 37 44 40 10. 32 34 25 42 38 39 41 70 .35 .57 .43 39 50 30 .40	253	2555	.1	195		7	रेप्ट	37/2	-				77.22	7	52.9		2	0		.273		100	3
	Foctor - 16.37	$\overline{}$	1 1	++		1 1	++	+	╀┼	++	+ +	\vdash	++		-	++	\coprod	7,4	1 -1	04.			2
	S		+	_			+	+	1	+	+	+	+	\perp	+	\sqcup	\sqcup					10/	
			H	\prod			Ť	$\dagger \dagger$	H	H		H	+	+	1	1	1				1	-	100
		+	-	\downarrow	I		+	1	+	+	+	+	+	+	+	\perp	\sqcup					44	
		-	-	L							Н	100		1			Ц	15			1		
29 Inte collected by HV.	Pace 29	1				1000	100			Dat	. 00	lecte	A P	7	P.	IN	1		7				

NObsr M No. 27

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units.

The units were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85C. for one-half hour. The capacitance was measured at 85C. The units were then exposed to 700 v.d.c. pre-breakdown test for one-half hour, after which the capacitance was again measured. During this period, there were 68 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	6.1 mfd.	Start of Test
73	5.75 mfd.	19 hours
87		26 hours
112	5.85 mfd.	91 hours
121	•••	113 hours
137	*	118 hours
137	5.6 mfd.	137 hours
140		157 hours
140		182 hours
149	5.55 mfd.	237 hours
153	5.65 mfd.	264 hours
153	5.65 mfd.	285 hours

NObsr M No. 27 (Continued)

Number of units started on test	23
Number finished	21
Total capacitance before life test at room temperature	6.3 mfd
Total capacitance before life test at 85 C.	6.3
Total capacitance after pre-breakdown test	6.1
Total capacitance after Life Test	5.65
Number of permanent failures	0
Number of temporary failures	153
Number of opens at the end of the test	2

NObsr M No. 28

Twenty-five .25 mfd, single .5 mil Metallized Mylar C Units.

The units were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C. for one half hour. The capacitance was measured at 85 C. The units were then exposed to 800 v.d.c. pre-breakdown test for one half bour, after which the capacitance was again measured. During this period, there were 67 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	6.5 mid.	Start of Test
64	6.22 mfd.	18 hours
64	~.~	25 hours
89	6.25 mfd.	39 hours
97		112 hours
100		11.8 hours
100	- · · -	136 hours
100		157 hours
103	•··· =	182 hours
103	6.1 infd	237 hours
104	6.1 mfd	264 hours
104	6.15 mfd.	285 hours

Nobsr M No. 28 (continued)

 \bigcirc

Number of units started on test	25
Number finished	23
Total capacitance before life test at room temperature	6.5 mfd.
Total capacitance before life test at 85 C.	6.65
Total capacitance after pre-breakdown test	6.5
Total capacitance after Life Test	6.15
Number of permanent failures	С
Number of temporary failures	104
Number of opens at the end of the test	2

Chicago Chic											889		3					1					7			
20 Clock 4 - 20 to Little A. 2 Clock 4 - 2 302. The a little A. 2 Clock 4 - 2 302. The			510	3/8	ز	M	7.	5		VEIO YEAR	8	13	4/0	to	9	9	617	12 E	. 8	100 K	1065		300	10	20	62
2 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 395 30 21 22 23 23 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 395 30 21 22 23 23 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 395 30 21 22 23 23 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 395 30 21 22 23 23 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 395 30 21 22 23 23 3 4 5 6 27 8 9 10 12 12 13 14 15 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	HOURS ON TEST	25	0						Į,	PERA	TURB	,-	53	Co		36		OLTA		-	200	7	20			,
### 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 39 80 21 22 23 5 800 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Augusted	950		5Ē	S CK		١.	240		100	deta /s/	. \	5.3		ir.	4 ×	*	1	30	2	2	E TE	ours	K	. 4	
2 3 4 5 6 27 8 9 10 31 12 13 14 15 16 17 18 39, 20 21 22 23 23 24 25 24 24 24 24 24 24 24 24 24 24 24 24 24	- icahan		-						1	CTRI		TSTS				TEST										-
20	Sample Number	-	'n	-	#	5	9	5	₩	6		Į,	12		14	15	16.	17	18	-		-	22	23	75%	
24 1 1 1 1 1 1 1 1 1	10/100. 8000	#	+	0	Q	Q			Q	Q	1		٩	Q	Q	4	٥	Q	Q	+	\perp		0	2	144	a
24 24 243 243 3 24 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3	1	•	-		П		01	40			-	40				3				112	-	-		_	_	-
24 267 262 278 4 4 6 6 7 6 9 2 4 24 2 5 6 7 6 7 6 7 7 2 6 7	Shunt P. Meya 807		-	-		_	129	110		_			YOOK	30K	100K	Š		KOOK	3.54	y.	_	100K			30	00/
2 3 4 37 6 1 2 4 37 37 37 37 37 30 34 34 36 34 36 36 36 36 36 36 36 36 36 36 36 36 36	On 475 V. METER	_	100	+			25	200	1	1	1	305				,			1	-1				L	50	
2 3 4 37 6 5 6 7 39 33 6 7 31 30 44 31 48 33 6 8 5 6 7 37 9 6 33 6 7 37 9 6 33 6 7 37 9 6 33 6 7 37 9 6 33 6 7 37 9 6 33 6 7 37 9 6 37 37 9 6 37 37 9 6 37 37 9 6 37 37 9 6 37 37 37 37 37 37 37 37 37 37 37 37 37	P. 11. 11. C	676	_	24.0	24.2		34	$\overline{}$	1 .	764	378	_	+	300	368		762	+4		105	2	1 -1			2	7
24 37 34 37 6 1 37 37 37 37 37 37 37 37 37 37 37 37 37	של יום אולם - ומחס א	4		20				-	1			41								- 4/			_			
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 10 10 24 26 24 26 24 24 24 26 24 24 24 24 26 24 24 24 24 24 24 24 24 24 24 24 24 24	5 tor-	m			34		1	-	37	32	$\overline{}$	1			%		48	,33	60	-	-	33	-+	.30	//*	3
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 10 0 11 12 13 14 15 16 17 18 19 20 21 22 23 10 0 11 12 13 14 15 16 17 18 19 19 20 21 22 23 10 0 11 12 13 14 15 16 17 18 19 19 20 21 22 23 10 0 11 12 13 14 15 16 17 18 19 19 20 21 22 23 17 19 19 19 19 19 19 19 19 19 19 19 19 19							.,		.,			t								4	1	1		+	4	-
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 124 24 24 24 24 34 34 44 3.0 32 30 .43 37 24 34 10.3			40				1	1												110		\perp			14	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 7 9 9 0 21 22 23 100 100 100 100 100 100 100 100 100 10	-		01				41	2							T									\perp	70	
		•	1			*	10	5			*	2	2							4					8	1
ELECTRICAL TESTS APTER LIFE TEST 1	LIPE TEST FAILURES IN HRS.		per				open.	10/409			48	olto de		-				î.	4000			-			per	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 10 10 10 10 10 10 10 10 10 10 10 10 10							1		-	G E	11 .	ESTS	3	••	11	EST									2	
100K 100K 100K 50K 100K 30K 100K 100K 5 5 100K 100K 50K 100K 100K		1	~	3	\vdash	2	9	2	80	П	0	=	75	7	77	15	91	17	18	13	8	23	25	23	큓	23
264 263243 255.263 6 2 257 260 266. 213.2555.263 6 0 263.249 259. 77. 33.47 1.0 28 2 2 30.42 31.39 10.0.	Shunt P. Maga 39F	lock		Š	,00K	100K			1.1		1		WK	30K		JOOK	HOK	100K	40	Ц	IDOK			_		18
72 33 .47 1.0 28 20 32 30 .43 31 253 219 259 259 259 259 259 259 259 259 259 25	475		1	1	1	T	+	+	+	1	4		-		1						1				Ŀ	
72 33 41 1.0 28 5 0 32 ·30 · 42 31 5 0 15.4 ·34 10.0	Jap. 17 4 14 1800 6	25%	1		26.3	243	\prod	1	m	3	905	Ħ		260	77				27	L	263	1 -				×
SE S	P. F. F.	8	+	_	_	-	1	-	\neg	3	2	1	$\overline{}$	_	_	.30	2	31	94		15.4	+	10.0			1.1
3.5 Bate collector by H.J. VW.				•	+				Н	П			_				1									-
3.5 Bate collector by H.J. V.W.		9			u f								1						- 1					1	- 1	
35 Bate collected by HJ. VW.		1	1	1	1	1	†	1	†	,	才	-	T	T	T				9	\perp	:	1				
35 Bate collected by HJ. VW.			+	T	1	1	T	1		T	1.25	1				1	1	-	10							
35 HJ. VW.					Г			-		ľ	10			100		7.0		1	16	100						
	A 0.538	1	1	1	1							A	3	0110	rted	2	′	17	1	N.					T.	-
									-	STATE OF	September 1					98.000						1 0 0	Y ST			

NObsr M No. 29

Twenty-five . 25 mfd. single .5 mil Metallized Mylar C Units.

The units (19) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 900 v.d.c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 28 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	5.3 mfd	Start of Test
62	5.18	20 hours
73	5.10	41 hours
128	5 , 0	64 hours
130	4.98	88 hours
144	4,95	113 hours
146	5.0	159 hours
149	5,0	169 hours
150	5.0	193 hours
154	4.9	216 hours
155	5.0	240 hours
161	4.95	262 hours

NObsr M No. 29 (Continued)

Number of units started on test	19
Number finished	17
Total capacitance before life test at room temperature	5,05
Total capacitance before life test at 85 C.	5.3
Total capacitance after pre-breakdown test	5.3
Total capacitance after Life Test	4.95
Number of permanent failures	0
Number of temporary failures	161
Number of opens at the end of the test	2

SPECIFICATION SPECIFICATION BOURS ON TEST 23 Tate started 7 August 1953 Sample Bumber 1	2		١	1		-	A COLUMN TOWNS	A. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		-	The second second	-								1		*	
MUNIS ON TEST A Date started August 1953 August 1953		Single		SMIL	11	1	Mete	07///0	00	1	14/01	714	Opec. Tors	į,		*	1	1		110001	200	1	30
August 1953 August 1953 August 1953				,			2 6	POK WILL		3 6	6 0	4			3	204-01	i	250011	2	3	7	3	1
August 19	30	- 1			1				T T	2	J		1000	ŀ		12/	1	1000	-	100		1	1
temple Funber		36	11.0cm	5	8/1	298	29 AV	4000	evs t	1953	3		fray	•		1	3		To tal	Hours		263	
Fumber							H	KLECTRICAL		TESTS	BEFORE		1178 71	TEST			1	-		-	-		
	N	~	4	5	9	24		6	91	11	12	13 1	77	15 1	16	17	18 1	19 2	20 121	-	2 <u>8</u> 23	-	25
0 2 4	[]		Q	2	Q	-	Q		1		1	\parallel	#	+	1	+	1	1	B		E P	٥	to
50 0001 - 260110				×a							-	-		-					×₽	. 2	D 5		на
Shitte Mean & F HOK			YOOK	9.0	100 K		38	/ook	1.5K	100K 100K		38 //	/AOK		\parallel	*	100K 40	0 100K	3		\$ 100K	KIDDK	A
				47		40			-						1	,	+	+	4	1.5	54	'	,,,
		T.		10		4							-		1		-+	+	व्य	10/	_		50
Con in who - 1000 %5 384	.272	259	270	0	34.8	7	264	260	256	.145.	. 25%.	358	270.265.064	65.0	64.2	252.2	259.2	.265.254	_	4	3768	8 260	
				94		5/						1	-	7			\neg	_	07	41	,	-	
Bre Fater - % 1.7	1.37	.34	.45	, ,	38		1.3	. 42	38	38	36	32.5	28	70 3	3.2	35,	1.09.	1,35	30,5	*	38.	78.	
				50 4		6.				1	+	+	+		+	+	+	+	4	1	44	1	4
				3/	-	1		-				+	£ .	-	-	-	+	+		09	J	1	1
				90		41							-	-	-	-	+	+	•		24	1	14
				105	-	1-5						Н	-	\vdash			-	-	10	20	-4		8
PAILURES IN HRS. P.				10100		open	· 30.		ray.					4,	rage of	E 14	Pre 1 00	Cado.	1011	Voltoge Voltoge	- POPO		068
					1			ELECTRICAL.	11 .	FESTS	V.	E LI PE	TEST.	"	1						4	i,	
Sample Number 1	~	-	3	5	9	2	*0	6		1	12		Н	15 16	П	17 18	Н	19 20	23	1 22	23	₹	8
9.4	1001	100%	1001		100		100	100K		¥		1.5K	¥			JOOK	H	1005	×	H	Š	1001	
		4					3				-			-		-	-	-	_		F 6	+	
19151				-			3		23	\vdash	-		-	40	4	*	***	4.	4	_	*		
Car in the land in	13	346	177		57/			2,0	P	250	250	255	250.2	.2623	20	1 40 6	25	5.2	. 222	H	Y	25	
01							40.		s	_			•	7	6	_	•	ı	_		2		/
13 W. F. F. T. O. 84	٧.	35.	1.02	ŀ	1.08		_	36	20	.39 2	1.0.1	7	3.2	\ \ \	9	\$ 62.	•		0	\dashv		.34	
							4.	_	4		-	-		*	¥	24	<u>"</u>	*		-	,,		
							01	T	170	T	-		\vdash	51	3 .	D •	₹	*		Н	*/	3	1
72			ľ						7	1	\vdash	\vdash	-	6	24	-	7	04		H	*		
					L	Γ		Γ	1.	-	+	i	\vdash	۲	,	4	4 4 %	,	7.	,,	7.		
20							27	Γ	10		-	-		70	•	i	**	4.	1	1	7	1	
-9						Γ	8	Г	20					0	10	?	3	3			16.		
20											8	200	7		#7.	>	3	1000		1			
00	Selection is	September 1 200		1	100	The second	Sam Sin	Betale	Spirit S	THE PERSON NAMED IN	Name of	BERT SEE		Section 1	200	A 250 CO	- Contract		general designation of the contract of the con		Santa de	A.	į

NObsr M No. 30

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units.

The units (20) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C. for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1000 v.d.c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 120 temporary breakdowns. No. 18 failed completely after 32 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	4,00 mfd.	Start of Test
275	3.85	20 hours
289	3 , 80	41 hours
290	3.62	64 hours
290	3.60	38 hours
290	3.57	113 hours
291	3,57	159 hours
294	3.6 2	169 hours
295	3,65	193 hours
295	3,65	213 hours
342	3.55	240 hours
342	3,50	263 hours

NObsr M No. 30 (Continued)

0

Number of units started on test	19
Number finished	13
Total capacitance before life test at room temperature	5.3
Total capacitance before life test at 85 C.	5. 55
Total capacitance after pre-breakdown test	4.00
Total capacitance after Life Test	3.50
Number of permanent failures	1
Number of temporary failures	342
Number of opens at the end of the test	6

SPECIFICATION	7		,	•		CHE-1010	1	•	-	1	-			1				2 1	10/	10. Manch	1	5	100 mm
		Single		7	3 1416		Non Y	五万	× 200	Ž	Vinroth	_	00		CONTRACT		NO. /	Nobs	1	572			
HOURS ON TEST	2						TE	TEMPERATURE	DIN.	3	2			7 2	VOLTAGE	AGE	1100		100		. /	-	
etarted.	,		Clock	9	- 16	1600		Date finished		Liè		O F	Clock	9	1.	098,			Total H	Hours	7	09	
14.5	60%		1			7	E S	ELECTRICAL	7 F	TESTS I	BEFORE	3	E TEST	6 4		-			.,				
Number	1 12	2	3	5	9	2	*	6		11	12 33	3 14	15	16	17	18	19	8	2	22	23	₹	25
	12	+	+	a	,		6	+	#	1	_	S	Y				0	0,	9	Q		م	2
-0 0011 - 26 m +100	*	.0.	}-	1	ex:	10	-	-	-	-	P	-	H					2			1		
Swath Meso. 8 FV	18 X 8	1	150K	30K	9.	100	50 K 3.5	X	100K 13	100K 25	5.X	100K	100	XX	40x	100K	x 181	24	SOK	100K	744 3	rock	100K
	1-1	10		_		1.0			_	H		40			-	-	•	4				1	. 1
-	3/	7	<u> </u> -		0	100	H		H	H	00	4	-		-	4		2	_		25		1
1000	1 1 m	1255. 3	.263	316	10	\Box	267 .27	0	762.2	261.2	768	0 366	1500 3	123	3	4 . 26	2 .259	_	365	.257		253	370
	07	-	1		24/	241	+		+	\rightarrow	1/0	2	_;	1	1	+	1	7	\perp	15	4	6	20
10	31.10	3	ुं	1.4	7 4	70	1.7	1.45	37.3	34 - 7		34	5	7,	7	1	5	4	7	2	6,	2 1	2
-	- 5		_	1		24 :	+	+	+	+	1		+	+	+	-	1	0/	1	1	1	-	1
+	/ 1		+			19	+	+	+	+	41		+-	┿-	+	ļ.	-	40		- 7			1
	447	105	-		205	a u	-	+	+	+	108	911			_		Ц	5			7	- 1-	
IN HRS.	10/	volro 96	-	20.3	No1109	10,409	coses.	u as		400	see"	- "		2300	ray.			volrage	open		ope ⁿ		
	1	5					ELECT	TRICAL	11	TESTS /	AFTER	1	TEST	* 1				}		. 1			
Number	7	2 3	3	36	9	2	30	9 10			12 13			9	2	18	19	8	21\$	25	23	72	25
e de		1	-	4		-	P	1.0	×	1	-	70K	KILLOK		, 3	140K	X00/		P.	100 K		100K	1001
		-		73		7		100			1	H	1	250	+	-	+	4	1			1	
73	40	100	1	10		,	240	190	17	250	24:	12.	27.296	7	7 4	3.258	5	\perp	orf.	3%		156	346
,	40	-		Yo				5		-	25		_	10	7			Ц		\rightarrow			1
2	2,1	₹.	1.15	4.0		1	5/10 25 7 5	24	+	77	*	à	1.7	7	44	65	9	\downarrow	1	.45		S	
	24	-2.7	1	41		-	_		+	14	24 .	+	*		4	-	1		10	11	,	17.7	1
	4	-		*	1	-	10	194	+	6,1		+	+	4	Y		L		1/7				
1	0	+		110			4		H	H	,	Н	H			4	Ц		10				
	4	H	Ц	7		**		•	H	74				4	4	-4	4		1				
	2/		Ц	6.9			1		\forall	8	40	H	-		4		4	_	8			1	1
177	•					100				Pate	Data collected	Lecte	4 1	ŧ	•	2	•				1		1

NObsr M No. 31

0

Twenty-five, 25 mfd, single, 5 mil Metallized Mylar C Units

The units (19) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C. for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1100 v.d.c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 203 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	3.94 mfd.	Start of Test
280	~~*	17 hours Unit No. 1 failed
280	2.32	17 hours
287	3.08	38 hours
293	2.81	61 hours
297	2.79	85 hours
301	2.79	110 hours
307	3,05	156 hours
309	3.00	166 hours
309	2,90	190 hours
311	3.05	213 hours
312	3.07	237 hours
313	3.07	260 hours

NObsr M No. 31 (Continued)

()

0

Number of units started on test	19
Number finished	11
Total capacitance before life test at room temperatures	4.75
Total capacitance before life test at 85 C.	5, 25
Total capacitance after pre-breakdown test-	394
Total capacitance after Life Test	3.07
Number of permanent failures	1
Number of temporary failures	313
Number of opens at the end of the test-	7

4.1	4	1				25	٥	1	1004		255	9		-						8	75K	-	1	1	89				I	1	i	SEC. 10.
	32	-	-	.9		₹	1		You		243	13	3							72	100K			2	5				1		1	l
•	2	0		256		23			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		229.	10	-	+			6.	150		23			•	01.	400	5	3	4		1	1	I
	3	2		Hours		22			34	C	346	1		T			0	20	1.	28	40	200			7/		•	9 5 5	T			I
	106	52	00	7.000		23	\parallel		100 K		766	寸、	•	-				0		21 1	100K			cl7	1.15	7			794	T'	4	١
	ġ.	150	0	Total	Ą	8		\rightarrow	2		265.	1,5	+	\dagger	H		3 4	15.0		8	1/3	37	4	PI	1		240			200	1.	Charles and a second
		1	20			19	σ_{\star}		SOK		265	0	-	+	\dagger		۷.	1-		19	35K 3	7-4	_	127	5		"	۲	-19/	1	H	
		ė		*		18		. 4	04	1		44	-	10-1	1 1			er		91	3	+	+	+	+	-	H	Н	+	+	3	ŝ
	9	CONTRACT	OLLAGE	405				- 1	14	00		34	- 1		11	- 1	0	'n		17 1	Н	+	+	+	+	+		+	+	+	S	
1	7	8	B	1		16 147	1 - 1	200	XQ	10	159.	4	4	14/	141		_	0	_	H	4	0/4		4	92/	ŀ	10.	1,1	+	+	11	
1	1075	-		**	TEST	15 1	14		7 X	-	256.2	100	+	+	+		٤	80		355.46	94 E	95¢	20) 24	40	7	100	10	X	// <u>*</u>	4	#	Charles and
١	200			Clock			Н	\rightarrow	X Xor	+	100	+	•	+	1	-	۷,	30		7	"	43	4	*	oy n	54	9	±	4	25	4;	-
	J.	•			E LIFE	13 14	Н	+	3.58	+-	25.554	10	+	+	H	-	4	ور د	-	135 3	7	20	94 S	40	97	-01	70	뉡	1/4/	746	43	Companies
	1	Winro	٦.	950	BEFORE	12 1	H		V	+	257.	30	+	+	H		٤.	°6°	AFFER	12 1	9/	028	14	4	40	44	41	8	15	44	4 3	
	1/1/00	×	8	`	138	-	H	\dashv	30K 40	+	260	+	+	+	H		6	٥٩٥		1	اناط	29	2	A	40,	4	47	ov A	14	4	43	
	1		20	finished Tember		21			100K 30	+	264.2	١,	7	+	H		H	A.			¥ = Y		24	2	101	50	•	4	**	44	4	
١	369		FRATUR	o finish	RICA	9 1	Н		XO.	+	159 2	+	1	+	H	-	\vdash	_	TRICAL	9	OK I DOK	-	-	57	5	+	H	Н	+	+	-	
١		2	TDG	a S	ELECTRICAL	-	\mathbb{H}		9	+	190.2	$\overline{}$	200	+			\vdash	-	ELEC	9	1/2			7	1	1	\vdash	5	+	+	+	
١	mete III	-		1	1		Н		K 30K	+		_	5	+	H	-	٤.		1	8	3			692.00	10:	7	-		J	04,	1	
1	1			3198		2	Н	H	30K	+	4.264	_	5	+.	Н		L.	b		47	× ×	0	, 2	35	40	•	19	6	rd	w ć	2	
	MIL			<u>ا</u>		9	\parallel	\dashv	X 100K	+	1.264	\rightarrow	5	+	H		-			9	KIBOK	-	4	2			\vdash	Н	4	+	١,	
	5			••		5	\parallel		100K	+	190.8	- 1	33	+	-		_	•+		5	/wx		,,,	.235	74	_	100	Ц	24	406		
١		Experimenta		Clock Trev	-	3			30	+-	267.268	-	0	-	-		9,0	120		70.		M .	43	V-	4	* *	11	ď	1	140	4	
	3/40/5	120				~			X TOK	-	3.26		3	+	1			8,		3	100K &	•5	007	40	$\overline{}$	7.	٩	-	//	14	4	
	5)	100	250		1	~	×		You	+	123		5	+		_	1				00/			230	3				7 4			
,	4fd-	Ž	7	1953		7	0		F3K	1	3.76	- 1	.47	+	-	-		80		-	200		00	7 4	9	24	4	4	1:4	24,	4	
	4	01	TEST			Fumber	000		2.70	Merce	COD. 17 464-100 75.268	9	10					PAILURES IN HRS.			Short R Mean 142	V. MSTer		419 × 200 6	3						1111	3
	23	SPECIFICATION	HOURS ON TEST	August		Mun .	10/14ac. 1200 D		-1	- 1	169.1	4	10 Clor	>			EST	ES 11		Sample 'Number	Mes	V.		PIA	4	100						
	25 units	PECI	OURS	Acc		Semple	200	-	11	2	101		0/10	-		(-	LIFE TEST	LUR		aple.	TR	475	9	Capini							0	•
	250		-	18	1	9	16/1		740	04	100	- 0	Diver				13	2	1	3	Sk	00	1	g	Q	101	1					Section 1

NObsr M No. 32

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units

The units (23) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an even to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1200 v.d.c. pre-breakdown test for one half hour. Unit No. 20 failed completely after 7 temporary breakdowns, unit No. 4 after 10 and Unit No. 23 after 100 temporary breakdowns. The capacitance was again measured before the Life Test commenced. During this breakdown psecond, there were 449 temporary failures.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	STAPSED TIME
0	3.70 mfd.	Start of Test
39	3.4	U hours
331	3.12	22 hours
349	3.12	43 hours
355	3.12	07 hours
372	2,90	91 hours
403	2.30	183 hours
407	2. 38	210 hours
408	2.5 0	234 hours
416	2.35	256 hours

Tell completed

NObsr M No. 32 (Continued)

 Θ

Number of units started on test	20
Number finished	10
Total capacitance before life test at room temperature	5.45
Total capacitance before life test at 85 C	5.55
Total capacitance after pre-breakdown test	3.70
Total capacitance after Life Test	2.35
Number of permanent failures	0
Number of temporary failures	416
Number of opens at the end of the test	10

SPECIFICATION Experiment BLOURS ON TEST 150 Clock Sample Number 1 2 3 N Shurt R. Meyene Flook R St. 15K On 775 V Meter Report 2014 2 2 3 N Shurt R. Meyene Flook R St. 15K On 775 V Meter R St. 15K On 775 V Meter R St. 15K Shurt R Meyene Flook R St. 15K On 775 V Meter R St. 15K Shurt R Meyene Flook R St. 15K	10 100 100 1 24 14 14 14 14 14 14 14 14 14 14 14 14 14	3671	र्	Merel	1	6	124	4/01	7	1000	10/10	2.4	5	2	2001	,	7	1
S ON TEST 150 S ON TEST 150 S ON TEST 150 CHOCK TO BE TO K K K K K K K K K K K K K K K K K K	1 20 10 10 10 10 10 10 10 10 10 10 10 10 10	. 9	£ !	OR YES		_			- The same			1	, ,	,		1		2
10 March 1 2 3 10 May 120 P P P 10 May 120 P	10 10 10 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10	9				ž	~	740	à-	8	CONTRACT	9	100	657	5	7200		
10 Mumber 1 2 3 6-136000 P P 8-136000 P P 8-136000 P P 8-136000 P P 8-136000 P 8-13600	4 10 10 10 20 24 14 14	9	H		RATURE		F5 (U			VOLTAGE		1300	7	20			
10 Number 1 2 3 6-136000 P P P 8 Negative 2008 CK K 14 1000 Sept 2017 2017 Factor 96 44 50 5	101/102 201/ 14		0	Date fir	.	, ,	0,0	ខដ	Clock	7	392	8		Total	Hours	7	52	
10 Number 1 2 3 4 4 50 1300 DC P P P P P P P P P P P P P P P P P P	10 100 100 20 24 140 1		1	ELECTRICAL	OI .	STS	BEFORE	3	TEST				1			1	,	
R. Megawe 200 R - P 6. 6 6. 13 R. Megawe 200 R - X K K 13 S. V. Meter 6. 24 1 24 1 24 1 24 1 24 1 24 1 24 1 24	10,100 100 100 100 100 100 100 100 100 1	6 7	-	6	\vdash	a	12 1	72 8	15	91	17	18	19	20 21	25	23	₹	25
P. Men To E 20K - K K 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10/102 24/ 14	0	0	٠.	40	11		Q										9
P. Mega The 20K TK K 1 13 S. V. Meter Mid. 1000 9.244 50 50 50 50 11	1000 241 141	-	-	0/	4	KG	14								-			
1 Meter 24 24 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12 24 14 14 14 14 14 14 14 14 14 14 14 14 14	5K 15K	K 30K	1 D	70	SOKIS	22 00 0	25K 40K	X 15X	37	20K	ZOK	301 3	35K 100	DOX 4K	30K	SK	30K
464.1000 9.344.264 12 12 12 12 12 12 12 12 12 12 12 12 12	7:02610			25	7	7 /	5	+					+	+	-	1		7
Fatr - % 44 50 5 5	1810)		\rightarrow	4	2 K	7	2 K	- 1	- 1			i _	10	+	_	1		200
Fatt. % 41 50 15	5,00	263 261	1.351	44	}	1305	7	259.257	27.566	253	262	266	S	5	37 :366	597-19	7,7	• 1
Fatr. % 44 50 98	,,,	-	+	4	-	1	4	_i	_ :		;	+	١,	+	+	-	1	3
10		.35 .91	5	-	04	750	0 1	39 .33	5.34	*	36	36	37	2	3	<u> </u>	7	. 77
-	24	-	+	1	1	1	′ I	+	-	T	+	+	+					
*	- 1			- 1	- 	<u> </u>		+	- +		-	+	+	+	. 0	1		
• 1	21	-	,		- 1	44	24	-	+		+	+	+		+			
115	10			. 1	16	2/	- 1	-	_	,				-				
PAILURES IN HRS. FEL RE SA	ber	1880	=	open	open	1.160 1.160 1.160	c9 open	7 Pee 7	ope	280	Cogo	7.00 Test 0	E 000	وهم وموم	4390		69	60%
				RIECTRI	3	م ال	ATTA	⊶							11			1
Sample Number 1 2 3 4	5	6 1 7	90		ဒ္ဓ		12 13	3 14	1935	86₹	19	31	90	0 21	1 32	23	3	25
2000	4	Į,		₩	11	 		•//	04.	1/2	p.	2	48		2	20K	£ 1.	
T TOTAL ON TO		02	ર છ			01.	15	/ S	050	5	40	40			9 5	-		长
1	v =	12	20			1:	1.	26	107	7.	7		77 P	10	107		5	
\$		200				23	PA	014	9 2 1	14	27	7.00	25	, 4 3 5	2 2	1.120	_	ŝ
7		4,	7				10	6 8 0	0-	5.0	5 3	2.S	כי		0		10	2
2 5	2/	5	50			2 4 0			7	1	3	٠ و.	3	2	9	24	ي. د	4
40 11 11 11	4	14	1		-/	H	ġ.	\$/4	4	24	7	44	4	1	4		2	"]
10.	10.	4	50,			10	4): 4/:	4	40	10			4	<u>وب</u>	\$ 0 3	`	70	1
10	ŧ.	17,					2	64	かんら	9) +	270	16 3	4	17			+	
3			17.0			2 4	1	2 3	4	3.38	14	54	1	10	/··		12	10
9.4 2.4 2.0.			1	,		7	•/	3 8		经	24:		14 TH	16	世に	7	14/	1
0000	98	10	40			4	W	8	P. 0	7	200	マンシ	य व	10	200		多公	3
4.1						Dat	1199	Lected	4	HI	1	14	K.T.					4
		,	1				101000	7				ACCOUNT		COLUMN TO THE PARTY OF THE PART	VI (010			

NObsr M No. 33

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units.

The units (20) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1300 v.d.c. pre-breakdown test for one half hour. Unit No. 18 failed completely after 194 temporary breakdowns, and Unit No. 11 after 316 self-healing breakdowns. The capacitance was again measured before the Life Test commenced. During this breakdown period, there were 316 temporary failures.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	4.37 mfd.	Start of Test
349		67 hours 2 No. 24 failed completely at 349 temporary break-
392		No. 13 failed completely or 392 temporary break-
872	. 55	88 hours
886	. 55	111 hours
939		111 hours No. 8 failed completely r 939 temporary break-
999	. 125	134 hours
1009	.125	158 hours
1022	. 250	225 hours
1025	.120	247 hours

NObsr M No. 33 (Continued)

TEMPORARY BREAKDOWNS

TOTAL CAPACITANCE ELAPSED TIME

1028

.130 mfd.

252 hours

Number of units started on test	18
Number finished	1
Total capacitance before Life Test at room temperature	5. 2
Total capacitance before Life Test at 85 C.	5.4
Total capacitance after pre-breakdown test	4.37
Total capacitance after Life Test	. 13
Number of permanent failures	3
Number of temporary failures	1028
Number of opens at the end of the test	14

SPECIFICATION EX.					-	LIFE	2						١			•	•		•	
HOURS ON TEST	SING.	10	,	7111		Meta	110	1200	17	19/01	1	0	Cit	-		101	1	500	11	34
HOURS ON TEST	perim	mento			Z Z	R VHOM		V. W	11110	276			CONTRACT	5		100	7	5	200	
					E	TEGERATURE	TURE	ч	Jo.	۲1			VOLTAGE	20	14	00)	10	0		
ate started		Clock of	وي 1	2545		Date fi	finished	≀	6.19		Clock	n	20	164		Total		Hours	25	К
10 Day 001 1100	0					ELECTRICAL	3	I m	BEFORE	3	E TEST	B4						(
Sample Washer	2 3	\vdash	9	1		0	2		12 13	3 74		91	17	18	19	8	23	22	23	772
+	1	10	0	₩			#+	₩.	₩	111	₩	#1					Ú			
1001-10010	-	1	+	+				-	-	-	-					40			PN	
Wint Place Sof 30 K	WK 25K	you	50K YOK	X 4.5K	15%	Yes	Yer	25K 4	4x	8	X 25K	1 15K	YOK	398	30K	294	3K	10K	SK	306
On 475 V Meter		7	+	+			1	+	+	+	+	1	1			4/	†	\dagger	ť	+
		118	+	_	6	· ·	٦,				24.3	2	10	37.6	6	7	10	37.6	107675	0
126 1 0001 - pin ut do	355	13	7	i de	0/1	200	797	2	7. 7.97	3	3	-1	3	1	<u> </u>	-		·	36	4.4
70 + 4	0	0	27	1	6	\$	34	22	32/	35	30	30	1,4	3	35	40	10.	34	58	i
DWE, 14-DK- 12.38	05 X	10	-	1	+		+	+	-	-	+	+	_			-		\vdash	_	10
		4	+	ļ.,					-	\vdash		-				9				1
	-	410	-	-							-					0/4			11	0
		13/		-											i	44			24	10
PATURES IN HRS.	-	oper	res .	4	68	0 1 1 E	رمهر	4 1 5 6 4 5 6 6 4 5 6 6 4 5 6 6 4 5 6 6 4 5 6 6 6 4 5 6 6 6 6	2000	2300	2000	موهم	, a)	cos		101204	open	500	Caso	open
	$\ $		2	$\ $			13	FESTS	11 5	4	11 -	11			!					
Sample Number 1	12 43	7	1	2	₩	46	2	311	12 23	3 424	215	365	72	9	8	8	215	2	23 2	24 25
Ness. 757	~	10	6	-	11.00	1		4	200	•	9 4	,4	200	43	8K		-7	P	4.	15K
415 V MS		P		+		å		9		دو		4	0	, 0			5	4	4	+
	10	o u	7 4	143	LD		100	// 	7.	00	7	34	0.0	, ,			4	• /	2	+
Cap. 10 464. 1000 %:) 	≥ 1€	4	25	6 5	14 PE	25	¥ 4	70.49	•	3 3	200	40	47	725		400	22	+	146
0 0	9 1	roy.	,,,		84	9	34	,	100	2	30	54/	\$,	34	S.	T	4,	٦.	744	8
9	,,,,	1/	10	1	5/		¥.	2	57	21	4	5		4	7		40	9		
	1000	*	0.	119	R 5	.01	-	0	200	10	6 3	17	3	10	. ,		140	7	40	
	30	9/	5	1	7,	4	3	3	1			3	4	1		1	1	1	9	-
//4	40.7.		4	-	1	24	,,	7	4	**	4	1	1	40		1	7	7	1	+
4	4/ 1	42	4	14	4	1	*	*	#	4	14	4	4	1			200	18	1	+
4	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4	4	20	2 2	3	9	A P	2	4	4	7	1	1		1	7	4	4	-
Fage 50						-		A	8	1001	1	10								
PROTECTION .	C. C.L.	3002			1	H	3	8	1000	8	Sept. Sept.		STATE OF	Benezin	STATE OF		999		ST S	

NObsr M No. 34

()

Twenty-five .25 mfd. single .8 mil skalized Mylar C Units.

The units (22) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1400 v.d.c. pre-breakdown test for one half hour. Unit No. 9 failed completely after 108 temporary breakdowns. Unit No. 9 failed completely after 108 temporary breakdowns, Unit No. 11 after 449 self-leading breakdowns. The capacitance was again measured before the Life Test commenced. During this breakdown period, there were 449 temporary failures.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	3.55 rnfc	Start of Test
393	2.2	1 hour
446		l hour Unit No. 3 failed completely.
453		1 hour Unit No. 7 failed completely.
632		1 hour Unit No. 2 failed completely.
752	. 95	22 hours
830	. 55	45 hours
895	. 60	69 hours
996	. 55	93 hours
1062	. 55	159 hours
1108	. 275	182 hours
1114	. 275	266 hours

NObsr M No. 34 (Continued)

TEMPORARY BREAKDOWNS

1121

1233	. 160	252 hours	5
		Test completed	
Nicosham of units at and all and and			
Number of units started on test			20
Number finished			2
Total capacitance before Life Test	at room tempera	tur :	5.50
Total capacitance before Life Test	at 85 C		5.75
Total capacitance after pre-breakd	lown test		3.55
Total capacitance after Life Test-			.160
Number of permanent failures			3
Number of temporary failures			1233
Number of opens at the end of the t	test		15

TOTAL CAPACITANCE

. 275 mfd.

ELAPSED TIME

228 hours

NObsr M No. 35

Twenty-five .25 mfd. single .5 mil Metallized Mylar C Units

The units (19) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 800 v.d.c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 42 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	5.2 mfd.	Start of Test
31	5. 2	18 hours
56	5.0	84 hours
56	5.0	107 hours
57	5,0	130 hours
58	5,0	153 hours
59	5,0	177 hours
68	5.0	181 hours
96	5.0	204 hours
100	5,0	229 hours
100	5.0	255 hours

NObsr M No. 35 (Continued)

Number of units started on test	19
Number finished	19
Total capacitance before life test at room temperature	5.0
Total capacitance before life test at 85 C	5. 2
Total capacitance after pre-breakdown test	5.2
Total capacitance after Life Test	5.0
Number of permanent failures	0
Number of temporary failures	100
Number of opens at the end of the test	0

NObsr M No. 36

Twenty-five . 25 mfd. single . 5 mil Metallized Mylar C Units.

The units (21) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 900 v. d. c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 74 temporary breakdowns.

TEMPORARY BREAKDOWNS	TOTAL CAPACITANCE	ELAPSED TIME
0	5.35 mfd.	Start of Test
94	5.10	18 hours
248	4.80	84 hours
281	4.75	107 hours
282	4.6 5	131 hours
284	4.55	153 hours
286	4.43	177 hours
291	4.70	181 hours
296	4.70	204 hours
301	4.70	239 hours
309	4.70	252 hours

NObsr M No. 36

(Continued)

Number of units started on test	21
Number finished	18
Total capacitance before life test at room temperature	5.55
Total capacitance before life test at 85 C.	5.7
Total capacitance after pre-breakdown test	5.35
Total capacitance after Life Test	4.70
Number of permanent failures	0
Number of temporary failures	309
Number of opens at the end of the test	3

	37	1		50	7	24 25	9	_	Your		250.02	1	.30 3.7				u ado		24 825	100K	12	215		3.9 6.5	<i>X</i> 22008 B	04	111	400	Pier	STATE OF THE PARTY
	1111	200		7		2 23		+	1001		3,353	- 1	75				6		23	100K		242		.57	1	1		401	10	
	1665	57	100	Hours		1 22	+	1	40K 100	+	259 763	+	47 .03	1			1970		1 22	¥		33.0	7	250	110	16	· V		08	
	.0	150	0	Total		20 21		1	} -	-	265 7	-	50	+					2	100K 100	. 7	255.233		9.1	+		-			A STATE OF
	_	1	100			19			100K 100	+	159.	+	-	+-	H				19 20	100K 10	1	15/ 7	\rightarrow	15. 49.	+					4.7
		9		0/		-	a		NON		.248	1	1	\dagger					18	V	+	5.39		39.		1	†			
	4	CONTRACT	VOLTAGE	31		17	4	r	10		24	3,0	797	1	w-	10	open		17		+	Ť				1	1	1		1
	120	8	_	-9		91	Q	_	100K		760 4	1	16	+					91	100K	T	23		.55						ľ
	apocitors			ok ok	TEST	15	P		Sak		.262		5				Sper	TEST	15	4	24	7 9 5	00	74	,,	4	,	500	8	١
	0			Clock	LIFE	14	Q		9		270		6.7				E 380			1	5	0 1	4.4	14	4	41	11	4	W.	١
9	101	roth	0		H	43	~4	40	14	010		201	Sra	10	10.	11	oeen	1 2	-	-	-		•			1				١
RECORD	174/9	din	3	1953		12	Q		7		1354		52		L		, ago		14	40	4	_	pv	4	14	04	1	10	10	1
TEST	100	11	_	. por	TESTS	ίī		$\overline{}$	188		.267		3.5					TESTS	=	-	Ì	10	-	12.			1			l
LIFE	-4///2	MEN	TEMPERATUR	finished	15.	10			**		1361		51	\perp	L		"pe"	CTRICAL	2	va.		_	2	4.0	-	"	7.	04	10	١
-	Meto	POR WE	DOE	Date 1	ELECTRICAL	6			PK.	1	1.363		3.4	1	L		18	ELECT	6	34	24	*	100	1 1	24	//	2	\$	W	1
٧.	£		H		1	**			/00K	1	6.259	\rightarrow	.34	1	\downarrow			11	8	#7	1	1	-	.43			1	Ļ		
	11	1		098		-		_	77	_	2.766		.74	<u> </u>	1	_	298	>	2	00	48	4	2 4	g	24		4		4	-1
	2	1		1		9.			100K	-	\$ 262		7	+	\perp	-		4	9		4	200		,55	Н	-	-	1	+	1
	٦,	10/		2		5			40K	-	9.258	1 1	3	1	1	-	-	1	5	1.5K	40	CHIC THE	-	4.1	1	44	1	4	- 44	
•	0	men		Clock frev		#	-		4 SK	\downarrow	4 359		1.90		+	+	2000		3	100	-	007		7	2	*	ſ	1124		-
10000	STho	. ~	-		-	2	L		135	1	45.5	+	.34	\perp	-		5	\parallel	-	11 . 1	4	_	200	40	_	-	4	1		4
	5	Xper	250	67.9	2	~		_	10K	+	1.360	-	1.30	\downarrow	+	_			~		15 0	74	-	29	C		44	10	pu.	
	P	7	~	7		7	Ň		Fak	-	136	-	3	+	1	+-	22		7	11 1	5		44	0	2	1/4	2	10/	44	1
	135.4	SPECIFICATION	HOURS ON TEST	Date started	3	Number	1000-1000		2	V. Meter	W. d. 1000		Postor	Y		1	TEST JRES IN H		Sample Number	Mega-77 6	425 V. Meter		d- 1000	Factor - %	1 1	•			13	
	STIME	SPECI	HOURS	0		Semple	Volto	1	Shunt	on 415	Popular	-	Forer				LIFE TEST		Sample	ShuntR	DA 475		66. In 41d - 1900	Power		11.11				2

DO COMMENT

NObsr M No. 3?

(0)

Twenty-five . 25 mfd. single . 5 mil metallized Mylar C units.

The units (23) were wired to a life test rack and the total capacitance measured at room temperature. Following this, they were heated in an oven to 85 C for one half hour. The capacitance was measured at 85 C. The units were then exposed to 1000 v.d.c. pre-breakdown test for one half hour, after which the capacitance was again measured. During this period, there were 32 temporary breakdowns.

TOTAL CAPACITANCE	ELAPSED TIME
5.2 mfd.	Start of Test
	18 hours Unit No. 9 failed completely.
4.6	18 hours
•••	22 hours Unit No. 1 failed completely
3.5	82 hours
3.5	105 hours
3.7	129 hours
3.1	151 hours
3.55	175 hours
3.45	179 hours
3.45	202 hours
3.30	227 hours
3.38	250 hours
	5. 2 mfd. 4. 6 3. 5 3. 5 3. 7 3. 1 3. 55 3. 45 3. 45 3. 30

NObsr M No. 37 (Continued)

Number of units started on test	23
Number finished	13
Total capacitance before life test at room temperature	6.1
Total capacitance before life test at 85 C	6.3
Total capacitance after pre-breakdown test	5.2
Total capacitance after Life Test	3.38
Number of permanent failures	2
Number of temporary failures	492
Number of opens at the end of the test	8

.25 Mfd. single .0005" Metallized Mylar

		; , ;	e.	*			-				_	100	
Capacitance After Life Test	6.25 Mfd.	5.65:	6.15	50.4	3.50. "	3.07. "	2.35 "	.13 ".	.16 ""	5.0	4.7 "	3,38 "	
Capacitance Before Life Test	6.2 Mfd.	6.1	6.5	5.3	1. 0.4	3.94	3.70 "	4.37	3,55	5.2 " 5.3	5,35 "	5.2	
Opens After Life Test	8	2	7	2	9	. 2	01	14	15	0	E	` œ.	
Temporary Breakdowns	83	153	104	161	342	313	416	1028	1233	100	30.5	492	3
Life Test Failures	0	0	0	0	0	-	0	~		0		7	
Number Finished On Test	2.2	. 21	23	17	13	=	01	-	2	19	18	13	
Number Started On Test	25	23	25	61	10	2	20	18	20	19	2.1	23	
Voltage	900 VDC	700 VDC	800 VDC	900 VDC	1000 VDC	1100 VDC	1200 VDC	1 300 VDC	1400 VDC	800 VDC	OO VDC	1000 VDC	
Temperature	2°58	35°C	85°C	. 2°58	85°C	85°C	85° C	85°C	85° C	85° C	85° C	. 2°58	
100	NObsr M#25	\M#27	M#28	M*2°	Me 30	M. 3.1	. " M#32	M#33	M#34	M#35	, M#36	" M#37	

Armed Services Technical Information Agen

Because of our limited supply, you are requested to return this copy WHEN IT HAS SERVED YOUR PURPOSE so that it may be made available to other requesters. Your cooperation will be appreciated.

AD

NOTICE: WHEN GOVERNMENT OR OTHER DRAWINGS, SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATE GOVERNMENT PROCUREMENT OPERATION, THE U.S. GOVERNMENT THEREBY INCURS NO RESPONSIBILITY, NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO

Reproduced by DOCUMENT SERVICE CENTER KNOTT BUILDING, DAYTON, 2, 0HIO

ILINCLASSIFIED